A.M. LUBOTSKY

THE SYSTEM OF NOMINAL ACCENTUATION IN SANSKRIT AND PROTO-INDO-EUROPEAN

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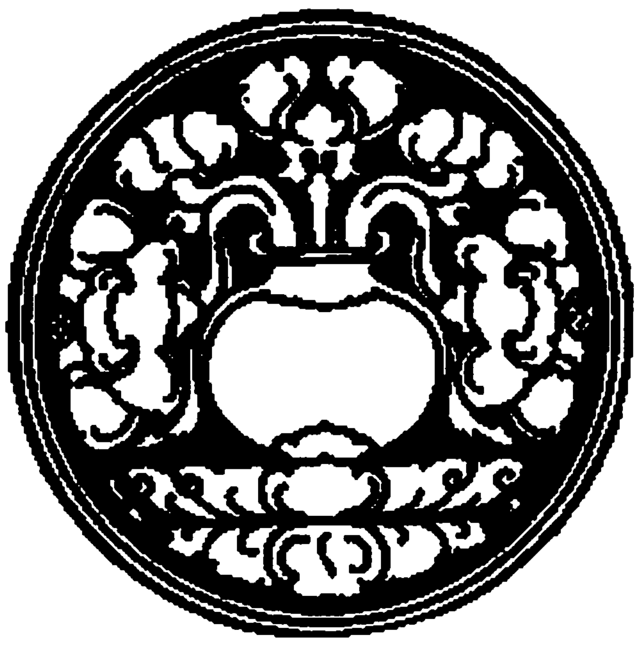

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BY

A.M. LUBOTSKY

E.J. BRILL
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In memory of my mother

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CHAPTER ONE

INTRODUCTION

The problem and earlier solutions

§ **1.1.** One of the most intriguing puzzles of Indo-European linguistics is the unpredictable character of nominal accentuation. Everybody who has ever studied Sanskrit, Greek, or Russian knows that few rules can be formulated for the place of the accent and that the accent of a large part of the lexicon must be learnt by heart.

There are hardly any traces of accentual mobility in the IE languages. Except for root-nouns (cf. Skt. nom.sg. *pā́t* 'foot', acc.sg. *pā́dam*, gen.sg. *padás*), practically all nouns have acquired fixed, or columnar, accent (cf. Skt. nom.sg. *ukṣā́* 'bull', acc.sg. *ukṣáṇam*, gen.sg. *ukṣṇás*). For disyllabic nouns we can thus speak of barytona, nouns with fixed accent on the first syllable, and oxytona, nouns with fixed accent on the second syllable.

The problem now is that there seems to be no reason why words like Skt. *gáti-*, *júṣṭi-*, *sóma-* are barytone, while *matí-*, *śruṣṭí-*, *gharmá-* are oxytone, i.e. the accentuation cannot be predicted on the basis of the morphological or semantic properties of the suffix or the meaning of the root.

Basically, three approaches have been proposed in order to account for this state of affairs. I shall call them "semantic", "morphological", and "phonetic".

§ **1.2.** The "semantic" approach starts from the assumption that "the most important distinction in nominal derivation in early Indo-European was not between the different suffixes simple or compound, but in a difference of accentuation according to which a word formed with the same suffix functioned either as an action noun or agent noun/adjective. Accented on the root it was an action noun and neuter, accented on the suffix it was an agent noun or adjective and originally of the so-called 'common gender'" (Burrow 1973: 119). This system is indeed attested for a small number of suffixes (cf. Skt. *bráhma* n. 'prayer' vs. *brahmā́* m. 'priest', *yáśas* n. 'glory' vs. *yaśás* adj. 'glorious'), but the suffix *-man-* shows several exceptions (masculina *áśman-*, *óman-*, *bhásman-*, cf. § 2.90), while the oxytone adjectives in *-as* are most probably abstracted from compounds. For the other suffixes (except for the suffix *-o-*, for which see §§ 2.38ff.) an accentual opposition of nomina agentis vs. nomina actionis is hardly attested. This forces Burrow to assume numerous secondary developments, changes of gender and accentuation, etc.

§ **1.3.** The second, "morphological", approach dates back to Osthoff and Hirt and is now more or less generally accepted. As is well-known, consonantal stems had different inflectional types which were characterized by accent and ablaut alternations within the paradigm: full grades were accented, zero-grades were unaccented. Later, when the alternations were no longer operative, one of the ablaut grades and one of the accentuations was generalized in the separate languages.

One would expect that the generalized accentuation would match the generalized ablaut grade of the root, but this is too often not the case. An example will clarify the issue. For the Sanskrit word *gáti-* 'moving' we must reconstruct the proterodynamic inflection:

nom.sg. **g^{w}ém-ti-s*
acc.sg. **g^{w}ém-ti-m*
gen.sg. **g^{w}m-téi-s*

and assume that the zero-grade of the root was generalized in Sanskrit. As the zero-grade was unaccented, this assumption does not explain the accentuation of the Sanskrit word and leads us to the conclusion that *gáti-* acquired the accent of the strong cases. On the contrary, Skt. *tantí-* must then have generalized the ablaut grade of the strong cases and the accentuation of the oblique cases. This explanation is certainly unsatisfactory, but it has been maintained for lack of a better solution.

§ **1.4.** These two approaches include elements which are evidently correct. E.g., nobody would deny that neuters of the consonantal stems are always barytone or that the semantic opposition between agent nouns and action nouns has played a role in the accentuation of certain suffixes. It is likewise incontestable that the PIE nominal inflection exhibited accentual mobility and ablaut alternations. Moreover, these approaches are not mutually exclusive, and scholars often combine them explaining nominal accentuation.

The major drawback to both theories, however, is the agnostic attitude toward the attested accentual distribution. The theories postulate a PIE accentual alternation and posit that at some stage of the development of the proto-language this alternation ceased to be operative, which led to the mix-up of different accentual types. Neither theory can explain why a particular word is, for example, barytone and not oxytone.

§ **1.5.** The only approach which claims to account for the accentuation of every word is the "phonetic" or "tonal" theory. This theory was formulated for the first time by the Russian scholar V.A. Dybo, who proposed to explain the accentuation of a word by the inherent (prosodic) properties of its constituent morphemes.

Dybo came to this idea through his studies of Slavic word-formation. In his 1968 article, Dybo pointed out that at a certain stage of Proto-Slavic there were two classes of suffixes, I and II, which had different accentual characteristics. In words derived from one group of roots the accent was mobile if the suffix belonged to class I and fixed on the suffix if it belonged to class II. Words derived from the other group of roots were always accented on the root irrespectively of the class of the suffix. There were thus two classes of roots and two classes of suffixes. A similar distribution is found in Lithuanian, which indicates that it was the Balto-Slavic situation.

These ideas were developed by Dybo in a series of publications (1973, 1980) where he showed that all morphemes in Balto-Slavic can be divided into two prosodic classes: I) class of strong, "dominating" morphemes, i.e. morphemes which attract the accent, and II) class of weak, "recessive" morphemes, i.e. morphemes which repel the accent. The distribution of morphemes over the two classes is "traditional", according to Dybo, i.e. must be taken for granted. Dybo then formulated the following simple rule which accounts for the accentuation of Balto-Slavic word forms:

> Any word form is accented on the first morpheme of Class I; if a word form has no morpheme of Class I, the initial morpheme bears the accent.

The latter word forms, which contain only weak morphemes, were unaccented in most syntactic environments and acquired initial accentuation in absolute position (cf. on this type of words, the so-called "enclinomena", Hinrichs 1985: 31ff.). A similar rule was formulated by Garde (1976) and Kiparsky (1973), probably independently of Dybo.

The rule implies that the accentuation of a word form does not depend on its meaning or on the morphological behaviour of the suffix, but follows the prosodic features of the constituent morphemes. If we assign to Class I a mark H ("high" tone) and to Class II a mark L ("low" tone), we can write all possible combinations of a disyllabic word in the following fashion: H́H, H́L, LH́, ĹL.

Dybo has compared several typologically parallel accentual systems (a language of Eastern Sahara, Tubu, and a Caucasian language, Avar) and concluded that "the comparative analysis of such accentual systems shows that accentual systems of this type generally result from the phonologization of the tone-related accent contour, which was brought about by the loss of tone distinctions" (Dybo 1980: 148; translation mine). The Balto-Slavic accentual system can thus be explained if we assume that (late) Proto-Indo-European possessed a tonal distinction between the dominant and recessive morphemes or, in other words, a system with high and low tones.

EVIDENCE FOR PIE TONES

§ 1.6. Is there further comparative evidence for tonal distinctions in PIE? This question was recently discussed by Kortlandt (1986a), who adduces three more pieces of evidence: the Vedic accentual system, the Greek accent laws and the consonantal structure of PIE roots.[1] Here I shall discuss these points in some detail.

§ 1.7. *Vedic Sanskrit* has several features which are reminiscent of a tonal language. The basic difference between tone and accent is that tone characterizes the syllable inherently whereas accent characterizes the syllable in its relation to the other syllables (a syllable can be accented only in contrast with other syllables of the word or syntagm).

One of the consequences of this difference is that in an "accent" language a disyllabic word can have no more than two different accentuations: the accent can be on the first syllable or on the second syllable, cf. Russ. *múka* 'suffering' vs. *muká* 'flour'. On the other hand, in a "tone" language there are always more than two possibilities (cf. Kuznecov 1970). When we turn to Vedic, we see that there are words with three different accentuations, cf. *úṣas* nom.sg. 'desiring (?)', *uṣás* gen.sg. and acc.pl. 'dawn', *uṣas* voc.sg. 'dawn'.

In Vedic there is no limitation to the number of consecutive accented or unaccented syllables. We find sequences such as *itthā́ yé prā́g úpare* (RV. 10,44,6) with four accented syllables, on the one hand, and *imám me gaṅge yamune sarasvati śútudri* (RV. 10,75,5) with ten consecutive unaccented syllables on the other. Such long sequences of accented or unaccented syllables are hardly possible in an "accent" language. Moreover, the fact that some Vedic particles are accented (*íd, ná* 'like, as', *hí*, etc.) and some are unaccented (*cid, na* 'not', *vā*, etc.) for no apparent reason is strongly reminiscent of tonal systems.

Furthermore, the description of the Vedic accent by the Indian grammarians (Pāṇini, Prātiśākhyas) and the accent marks in the manuscripts (see § 2.2f.) leave no doubt that the main accent was a rising tone (cf.

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[1] The distinction between acute and circumflex long vowels, which is often postulated for PIE, certainly has nothing to do with the tonal distinctions in question. In the same paper Kortlandt showed that the difference between acute and circumflex arose in the separate languages and cannot be reconstructed for the proto-language.

§ 2.3 and fn.3) and that from a phonetic point of view Vedic had a "musical" accent.

As stated by Kortlandt, the accentual system of Vedic is typologically comparable to the accentual system of Japanese, which is derivable from "a common type of tone system, namely that in which every syllable has a contrastive high or low pitch" (McCawley 1978: 301). We may assume the same origin for the Vedic accentuation.

§ **1.8.** *The Greek accent laws.* Two accent laws have affected all Greek dialects:

> Limitation Law: The place of the accent is limited to the last three syllables of the word, and to the last two syllables if the final syllable contains a long vowel or a diphthong.

The condition of the long final syllable implies that there was a shift of the accent from the antepenult to the penult before a long final syllable: ×́×– > ××́–.

> Wheeler's Law: The stress is retracted from a short vowel in the final syllable to the penult if the penult was short and the antepenult long: –⏑⏑́ > –⏑́⏑.

These laws have never been satisfactorily explained. Both shifts are conditioned by a long syllable which attracts the accent not onto itself, but to the intervening syllable. As is well-known, Greek had a musical accent: the acute had rising tone movement, the circumflex had falling tone movement. The shifts can now be explained by the assumption that "unstressed long vowels or diphthongs received a rising or falling tone movement in the neighbourhood of a high tone vowel, even if there was an intervening syllable, which in that case adopted the high tone of its environment" (Kortlandt 1986a: 157). In other words, the long syllable *before* the main accent received a rising contour, whereas the long syllable *after* the main accent received a falling contour. If we write H ('high') for an accented vowel, L ('low') for an unaccented vowel (long vowels and diphthongs are written HH, LL), and M ('mid') for an unaccented high vowel, we can formulate the shift of the Limitation Law and Wheeler's Law as follows:

> Limitation Law: H́-L-LL > H́-L-ML > H-H-ML > M-H́-ML
> Wheeler's Law: LL-L-H́ > LM-L-H́ > LM-H-H > LM-H́-M

Kortlandt's explanation can thus be formulated in terms of three tonal rules:

1) LL becomes LM or ML before or after the high tone (cf. for such tonal assimilation rules Hyman 1975: 222f.);

2) MLH, HLM > MHH, HHM (cf. for such rules McCawley 1978: 301);

3) of three consecutive non-low tones the middle one acquires the accent (HHM > HH́M and MHH > MH́H). This rule can be explained if we assume that the tonal contour of Greek (e.g., in case of ˘˘˘́˘˘) was -⁻¯⁻- or L-M-H-M-L (low-mid-high-mid-low).

Similarly, we can account for the

> σωτῆρα-Law (for Ionic-Attic): Stressed long vowels and diphthongs in the penultimate syllable have a circumflex if the vowel of the final syllable is short and an acute if this vowel is long: –͂˘ vs. –́–.

This opposition becomes understandable if we reformulate the σωτῆρα-Law in terms of tonal features. Bearing in mind that the circumflex was a falling accent whereas the acute was rising and assuming that long vowels and diphthongs were accented on the first mora, we can describe the opposition –͂˘ vs. –́– as H́L-L (circumflex) vs. H́L-LL. The former remained unchanged, while the latter was subject to the tonal rules given above: H́L-LL > H́L-ML (rule 1) > HH-ML (rule 2) > MH́-ML (rule 3). The resulting accentuation MH́ was rising = acute.

> Vendryes' Law (for Attic): the stress was retracted from a long penult to a short antepenult if the final syllable was short: ˘–́˘ > ˘́–˘, cf. ἔγωγε next to ἐγώ,

is also explained by Kortlandt in terms of tonal assimilation. The development must have been L-H́L-L > H-HL-L > H́-ML-L according to a set of rules slightly different from the previous three laws. This is understandable because Vendryes' Law is attested only in Attic and is thus of later date than the other laws.

The tonal assimilation rules proposed by Kortlandt for Greek point to a system with a distinction between high and low tones.

§ 1.9. *Root structure constraint.* It is well-established that a voiced aspirate and a voiceless stop do not simultaneously occur within a PIE root unless it is preceded by *s- (cf. Benveniste 1935: 147f.). This means that roots of the structure *TeRD^h- or *D^{h}eRT- (***teub^h-*, ***b^{h}eut-*) are impossible, whereas roots of the type *(s)TeRD^h- do occur (*steig^h-*, *skerd^h-*, etc.). The exception with initial *s-* may be explained by Siebs' Law (*sD^h-, *sD- > *sT-). We must therefore assume that the distinction between voiceless stops and voiced aspirates was a prosodic feature of the root as a whole.

Kortlandt compares this prosodic feature with the tone distinction discussed above. "If this is a meaningful comparison, we expect a correlation between voiceless stops and high tone on the one hand, and between voiced aspirates and low tone on the other'' (Kortlandt 1986a: 158). From a typological point of view, the PIE obstruent harmony is reminiscent of the Austronesian language Jabêm, where obstruent voicing is indeed correlated with a level tone distinction (cf. Bradshaw 1979). In Jabêm and Numbami, one of Jabêm's closest relatives, obstruents within a morpheme must either be all voiceless or all voiced. In the former case the tone is high, in the latter low.

According to Kortlandt, the link between the PIE root structure constraint and tones may also explain the problem of the PIE voiced aspirates. As was recognized long ago, the double marking of this class of consonants ([+ voiced, + aspirate]) is typologically deviant. In view of the fact that both voicing and aspiration are often accompanied by a low tone, we may consider the possibility that voicing, aspiration and low tone all originated from a single phonological feature: something like ''lax''. The initial lax consonant would yield low tone on the following vowel, which in its turn would influence the following consonant, which became lax, too. This is the situation actually attested in Jabêm. We return to the problem of PIE tones in the final chapter.

AIM OF THE INVESTIGATION

§ **1.10.** Let us now return to the original problem of the unpredictable character of PIE nominal accentuation. As we have seen, the only approach which claims to explain the accentuation of every single IE word is Dybo's tonal theory. Within the framework of this theory, the accentuation of every noun was determined by the prosodic features of the constituent morphemes, which means that if we know the prosodic class of the root and the suffix,[2] we can predict the accentuation of the word. We have seen that additional evidence for the existence of tones in PIE is available and that there is reason to believe that the tones were correlated with the consonant structure of the morphemes in the protolanguage.

Extant studies dedicated to the prosodic classes of morphemes (Dybo's studies on Balto-Slavic and Kiparsky's 1984 article on Vedic) deal with inflection and secondary word formation and are thus concerned with the synchronic description of the separate languages. However, in order to prove the IE character of the tonal distinctions, we must investigate IE *primary* word formation, which may provide the accentual rules of the proto-language. As the verb offers hardly any information on the prosodic classes of morphemes, we shall be concerned with primary nominal word formation.

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[2] Root-nouns, i.e. words without any suffix, show accentual mobility: the strong cases are accented on the root, the weak cases accented on the ending.

The aim of the present study is twofold:

- First, to investigate whether the tonal theory can account for the material of IE primary nominal word formation, or, in other words, whether it is possible to divide all roots and suffixes into two prosodic classes: a class of strong morphemes and a class of weak morphemes.
- Second, if the division turns out to be possible, to attempt to find the features uniting the prosodic classes. In the light of Kortlandt's suggestion (cf. § 1.9), it is conceivable that the distribution of the classes depends on the consonantal structure of the morphemes.

§ 1.11. If the tonal theory is correct, we may expect the following situation. Every morpheme must have certain inherent features which ultimately determine the accentuation of a word. The theory predicts that all morphemes can be divided into (probably two) prosodic classes in such a way that the accent of words could be derived by general phonological rules.

For word formation this means that the accentuation of a word can be predicted on the evidence of the prosodic features assigned to every single root and suffix. Furthermore, we would expect that roots of the same consonantal structure belong to the same prosodic class. One may assume that if this prediction turns out to be correct, it vindicates the tonal theory; otherwise, we would have to look for another explanation for the accentological distribution.

In order to test the theory, the following steps are necessary:

(1) Select suffixes in which the distribution of barytona and oxytona is unpredictable, i.e. not determined by semantic or morphological factors.

(2) Take one suffix and note the root structure of barytona and oxytona.

(3) Check whether there is any overlapping, i.e. whether the same root structure occurs with both barytona and oxytona.

(4) If there is no overlapping, try to determine the distribution of the root structure, i.e. which type of root structure yields barytonesis and which yields oxytonesis.

(5) Compare the distribution occurring with different suffixes in order to determine which suffixes yield the same distribution of the root morphemes.

It is clear that the theory might be disproved as early as at step 3 if more or less the same root structure were to occur with both barytona and oxytona. At step 5 too, we may get in insurmountable difficulties if every suffix were to have a different distribution.

METHOD OF THE INVESTIGATION

§ 1.12. In order to divide the morphemes into prosodic classes, I have considered the derivatives of every single suffix separately. The root morphemes of these derivatives automatically get split up into two classes: the roots of barytona and those of oxytona. The next step is to find out whether the roots belonging to the same class have a similar consonantal structure. The structure of a root (or an ablaut form of a root) is determined by the types of its constituent phonemes, which are subdivided into 7 groups:

1. voiceless stops T = *p, t, ḱ, k^w;
2. voiced (glottalic) stops D = *b, d, ǵ, g^w;
3. aspirated stops D^h = *b^h, d^h, $ǵ^h$, g^{wh};
4. resonants R = *r, l, m, n, i, u;
5. sibilant S = *s;
6. laryngeals H = *H_1, H_2, H_3;
7. vowels e = *e, o, ē, ō.

I designate the *s*-mobile as (s). We thus get such root structures as RR, HRS, TeR, HReD^h, RRD, (s)TeRD^h, etc. Assuming that there is no overlapping and that the same types of root structure fall into the same class, we now arrive at a distribution of root morphemes. On the basis of this distribution, we can compare other suffixes in order to establish a distribution of suffix morphemes. Suffixes which show a similar distribution of root morphemes belong to the same prosodic class; suffixes with a different distribution of root morphemes form another prosodic class.

§ 1.13. Let me illustrate the procedure with a few Sanskrit suffixes. We start with the suffix *-ti-*. After the selection of the material we arrive at the following list of derivatives in *-ti-* (for details of the reconstruction refer to §§ 2.11ff.):

Barytona

word	root	structure	word	root	structure
íṣṭi-	*iH_2ǵ-	RHD	*dhū́ti-*	*d^huH-	D^{h}RH
kṛ́tti-	*(s)krt-	(s)TRT	*dhrúti-*	*d^hur-	D^{h}RR
gáti-	*g^wm-	DR	*yáti-*	*im-	RR
cítti-	*(s)kit-	(s)TRT	*ránti-*	*Hrem-	HReR
jī́ti-	*g^wi-	DR	*vṛ́ddhi-*	*urd^h-	RRD^h
júṣṭi-	*ǵus-	DRS	*śúpti-*	*(s)ḱup-	(s)TRT
dṛ́ti-	*dr-	DR	*śrúti-*	*ḱlu-	TRR

Oxytona

word	root	structure	word	root	structure
ātí-	*H_2nH_2-	HRH	*bhaktí-*	*b^heH_2g-	D^{h}eHD
ití-	*H_1i-	HR	*bhūtí-*	*b^hH_2u-	D^{h}HR
iṣṭí-$_1$	*H_1is-	HRS	*bhṛtí-*	*b^hr-	D^{h}R
iṣṭí-$_2$	*$HisH_1$-	HRSH	*bhṛṣṭí-*	*b^hrs-	D^{h}RS
ūtí-	*H_2uH-	HRH	*matí-*	*mn-	RR
ṛṣṭí-	*H_2rs-	HRS	*mití-*	*mi-	RR
kīrtí-	*kH_2r-	THR	*rātí-*	*$HreH_1$-	HReH
kṛṣṭí-	*k^wls-	TRS	*rītí-*	*H_3riH-	HRRH
kṣātí-	*$\acute{k}seH_1$-	TSeH	*viṣṭí-*	*uis-	RRS
kṣití-	*tḱi-	TTR	*vītí-*	*uiH_1-	RRH
gūrtí-	*g^wrH-	DRH	*vṛṣṭí-*	*H_1urs-	HRRS
jñātí-	*$\acute{g}neH_1$-	DReH	*śaktí-*	*ḱek(w)-	TeT
tantí-	*ten-	TeR	*śastí-*	*ḱns-	TRS
tṛptí-	*trp-	TRT	*śrití-*	*ḱli-	TRR
dhītí-	*d^hiH-	D^{h}RH	*śruṣṭí-*	*ḱlus-	TRRS
dhūrtí-	*d^hurH_1-	D^{h}RRH	*sātí-*	*snH_2-	SRH
paktí-	*pek^w-	TeT	*siktí-*	*sik^w-	SRT
pītí-	*pH_3i-	THR	*stutí-*	*stu-	STR
puṣṭí-	*pus-	TRS	*sphātí-*	*$speH_1$-	STeH
pūrtí-	*prH_3-	TRH	*srutí-*	*sru-	SRR

The analysis of the root structure shows some remarkable results. First of all, we see that roots with a final or medial laryngeal mostly belong to the oxytona (17x), while among the barytona there are only two of such roots. The other types of root structure are distributed amongst barytona and oxytona in the following fashion:

	Barytona:	Oxytona:
T-	TRR	TTR, TRT, TRR, TRRS, TRS (3x), TeR, TeT (2x)
D-	DR(3x), DRS	—
D^h-	D^{h}RR	D^{h}R, D^{h}RS
S-	(s)TRT (3x)	STR, SRT, SRR
R-	RR, RRD^h	RR (2x), RRS
H-	HReR	HR, HRRS, HRS (2x)

There is not much overlapping: only TRR and RR occur in both columns. Moreover, the oxytona include many roots with T, but none with D and only two with D^h. On the other hand, the barytona, which are less frequent than the oxytona, have four roots with D, two with D^h, and T only in three (s)TRT structures + one TRR. As to the roots without stops, we see that the oxytona have only zero-grade roots (8x), whereas the barytona show one zero and one full grade root.

We may tentatively formulate the following distribution of root morphemes with the suffix *-ti-*:

- Roots without stops yield oxytonesis in zero-grade and barytonesis in full grade.
- Roots with one stop yield oxytonesis if the stop is T, and barytonesis if the stop is D. The behaviour of D^h is unclear. It seems irrelevant whether the stop is root-initial or root-final.
- Roots with two stops yield barytonesis in the case of (s)TRT and oxytonesis in the case of TRT, TeT.
- Roots with final and medial laryngeals yield oxytonesis.

§ 1.14. The next step is to compare this distribution of the root morphemes with that of other suffixes. Let us now take the Sanskrit suffix *-u-*. We find the following list of words:

Barytona

word	root	structure	word	root	structure
°árṣu-	**H_2ers-*	HeRS	*mádhu-*	**medh-*	ReD^h
ásu-	**H_1es-*	HeS	*mánu-*	**mon-*	ReR
kṛ́tu-	**(s)krt-*	(s)TRT	*múhu-*	**mrǵ^h-*	RRD^h
krátu-	**kret-*	TReT	*rájju-*	**Hresg-*	HReSD
ghṛ́ṣu-	**g^{wh}rs-*	D^hRS	*réku-*	**leik^w-*	ReRT
chándu-	**skend-*	STeRD	*vásu-*	**H_1ues-*	HReS
jásu-	**(s)g^{w}es-*	(s)DeS	*sváru-*	**suer-*	SReR
táku-	**tek^w-*	TeT	*svédu°*	**sueid-*	SReRD
tápu-	**tep-*	TeT	*hánu-*	**ǵen-*	DeR

Oxytona

word	root	structure	word	root	structure
aṃhú-	**H_2enǵ^h-*	HeRD^h	*krīḍú-*	**ḱrisd-*	TRRSD
āśú-	**HoHḱ-*	HeHT	*gurú-*	**g^{w}rH_2-*	DRH
urú-	**H_1urH-*	HRRH	*gṛhú-*	**g^{w}lǵ^h-*	DRD^h
ṛjú-	**H_3rǵ-*	HRD	*carú-*	**k^{w}er-*	TeR
ṛṣú-	**H_1rs-*	HRS	*cāyú-*	**k^{w}eH_1i-*	TeHR
kārú-	**keH_2r-*	TeHR	*tanú-*	**tnH_2-*	TRH
kṛdhú-	**(s)krd^h-*	(s)TRD^h	*tāyú-*	**(s)teH_2i-*	(s)TeHR
ketú-	**(s)keit-*	(s)TeRT	*tṛṣú-*	**trs-*	TRS

word	root	structure	word	root	structure
nṛtú-	*H_2nrt-	HRRT	*ripú-*	*lip-	RRT
paśú-	*peḱ-	TeT	*vanú-*	*unH-	RRH
pāyú-	*peH_2i-	TeHR	*valgú-*	*uelg-	ReRD
pitú-	*pit-	TRT	*vīḍú-*	*uisd-	RRSD
purú-	*plH_1-	TRH	*śaṅkú-*	*ḱonk$^{(w)}$-	TeRT
bahú-	*b^hn$ǵ^h$-	D^{h}RD^h	*śayú-*	*ḱeiH-	TeRH
bāhú-	*b^he$H_2$$ǵ^h$-	D^{h}eHD^h	*svādú-*	*sueH_2d-	SReHD
raghú-	*H_1lng^{wh}-	HRRD^h	*harṣú°*	*g^{wh}ers-	D^{h}eRS

The roots with a final or medial laryngeal yield oxytonesis (13 oxytona), which runs parallel to the suffix *-ti-*. If we leave these roots out of consideration, we find the following distribution:

	Barytona	Oxytona
T-	TeT (2x), TReT, (s)TRT	TRT, TRS, TRRSD, TeR, TeT, TeRT, (s)TRD^h, (s)TeRT
D-	DeR, (s)DeS	DRD^h
D^h-	D^{h}RS	D^{h}RD^h
S-	STeRD, SReR, SReRD	—
R-	RRD^h, ReD^h, ReR	RRT, RRSD, ReRD
H-	HReSD, HReS, HeS, HeRS	HRD, HRS, HRRT, HeRD^h

Here again, we find no overlapping: only TeT roots occur in both columns. We see that roots with one T yield oxytonesis. For roots without stops the ablaut grade of the root is decisive in determining the accentuation: Words with full grade in the root are barytone (SReR, ReR, HReS, HeS, HeRS); words with zero-grade are oxytone (HRS).

As far as roots with *one* D or D^h are concerned, the situation is the following: if D or D^h is contiguous to the syllabic nucleus ánd the root has no initial laryngeal (DeR, DeS, D^{h}RS, RRD^h, ReD^h), we find barytonesis, otherwise the situation is rather complicated.

It follows that the accentological distribution of the suffix *-u-* is essentially the same as that of the suffix *-ti-*: roots with final and medial laryngeals yield oxytonesis; roots without stops are distributed in accordance with the ablaut grade, roots with T yield oxytonesis, whereas roots with D and D^h yield barytonesis. On the other hand, we have seen that the contiguity of the stops and the presence of the initial laryngeal may play a role in the accentological distribution.

Accordingly, the suffixes *-ti-* and *-u-* show a similar accentological distribution and thus belong to the same prosodic class.

§ 1.15. If we now take an *o*-stem suffix, we see that the distribution is different in some respects. I here give the Sanskrit suffix *-ma-* as an example.

Barytona

word	root	structure	word	root	structure
ájma-	**H_2eǵ-*	HeD	*yā́ma-*	**H_1ieH_2-*	HReH
ā́ma-	**H_2uH_1-*	HRH	*śúṣma-*	**ḱus-*	TRS
kā́ma-	**keH_2-*	TeH	*sárma-*	**sel-*	SeR
kṣéma-	**tḱei-*	TTeR	*sóma-*	**seu-*	SeR
bhā́ma₁-	**b^heH_2-*	D^{h}eH	*stóma-*	**steu-*	STeR

Oxytona

word	root	structure	word	root	structure
idhmá-	**H_2id^h-*	HRD^h	*yudhmá-*	**iud^h-*	RRD^h
gharmá-	**g^{wh}or-*	D^{h}eR	*rāmá-*	**HreH_1-*	HReH
darmá-	**der(H)-*	DeR(H)	*rukmá-*	**luk-*	RRT
dhūmá-	**d^huH-*	D^{h}RH			

First of all, it is evident that roots with a final or medial laryngeal do not yield oxytonesis as was the case with the suffixes *-ti-* and *-u-*: here we find four barytona and only two oxytona. Further, roots with one stop show the opposite distribution: T points to barytonesis (TTeR, TRS, STeR, TeH vs. oxytone RRT), whereas D and D^h point to oxytonesis (DeR, D^{h}RH, D^{h}eR, RRD^h vs. barytone D^{h}eH).

Conclusion: The suffix *-ma-* belongs to a different prosodic class than the suffixes *-ti-* and *-u-*.

§ 1.16. On the basis of these examples we can state that at least for derivatives with certain suffixes it is possible to divide the root morphemes into two prosodic classes without getting involved in internal contradictions. Moreover, we have seen that the suffixes *-ti-* and *-u-* appear to belong to the same prosodic class, whereas the suffix *-ma-* belongs to another.

It would certainly be possible to present all the suffixes as was done in the examples above, but this would make the book practically unreadable. Therefore I have opted for a different presentation.

In the course of the preliminary work, I compared all suffixes one by one in the fashion shown above (§§ 1.13ff.). The comparison revealed (1) that suffixes in *-i-* and *-u-*, on the one hand, and suffixes in *-o-*, on the other, show essentially the same accentual distribution, (2) that the accentological distribution of the *i*- and *u*-stems differs in some respects from the distribution of the *o*-stems, and (3) that the material of the other stems is generally insufficient to allow conclusions.

It therefore seemed appropriate to present and evaluate the material in accordance with the stem formation. For details on the selection, presentation and evaluation of the material see §§ 2.4ff.

ROOT STRUCTURE CATEGORIES

§ 1.17. On the basis of comparison of different suffixes, as exemplified in the preceding sections, we may establish several categories of root structure. Three criteria have turned out to be relevant:

(1) How many stops does the root contain: none, one or two? Roots with structure TTeR (e.g., **tḱei*-) are regarded as containing a single stop, as opposed to structures such as TeT, (s)TeD^{h}, etc.

(2) Is the stop, if any, contiguous to the syllabic nucleus or not? This criterium is important because, for instance, SRT root structures, on the one hand, and SeRT root structures, on the other, show different accentuations. In the former, the stop is contiguous to the syllabic nucleus, whereas in the latter it is not.

(3) If the root contains a stop, does it have an initial laryngeal? It seems that one-stop roots with and without an initial laryngeal (e.g. HRD vs. RD) show different accentuations.

Taking these criteria into account, we arrive at the following four categories of root structure:

CATEGORY 1. Roots without stops.
CATEGORY 2. One-stop roots without an initial laryngeal.
  A. Derivatives with a contiguous stop.
  B. Derivatives with a non-contiguous stop
CATEGORY 3. One-stop roots with an initial laryngeal.
  A. Derivatives with a contiguous stop
  B. Derivatives with a non-contiguous stop.
CATEGORY 4. Two-stop roots.
  A. Derivatives with two contiguous stops.
  B. Derivatives with one contiguous stop.
  C. Derivatives with two non-contiguous stops.

In the following, I shall first arrange the material in accordance with the categories established here and then try to find an accentual distribution for each category.

SOME THEORETICAL CONSIDERATIONS

Accent and morphology

§ 1.18. The function of accent in grammar is twofold. On the one hand, accent is a prosodic feature of vowels or syllables and thus is a phonetic phenomenon. On the other hand, accent can characterize morphemes and may be subject to analogical changes typical of morphological categories. This duality of accentual function determines the special place of accentology in diachronic studies. We must be fully aware of the influence which morphology can exert on accentuation.

The influence of morphology can be seen, for example, in the fact that languages often generalize one of the two variants of an affix – accented or unaccented. This process mostly affects suffixes (cf. the consistently unaccented suffix *-ma-* in Germanic or the always accented adjective suffixes -νό-, -ρό-, -τό- in Greek) and can even spread across groups of suffixes (cf. Greek suffixes in *-i-*, which are always unaccented).

It is therefore necessary to first consider the accentual behaviour of a suffix for every language separately before we reconstruct the PIE accentuation of a word. The comparison of words only is often gratuitous. For instance, accentual correspondences between Greek and Sanskrit given by Kuryłowicz 1968: 20 (ὄις: *ávi-*, ὄφις: *áhi-*, πόσις: *páti-*) do not prove anything because in Greek all *i*-stems are barytone. On the other hand, the divergent accentuation of Gr. πῆχυς and Skt. *bāhú-* (Kuryłowicz, ibidem) can be explained by the fact that Greek has generalized barytonesis in the masculine *u*-stem nouns, whereas Sanskrit has preserved the accentual opposition in this category.

Attitude toward exceptions

§ 1.19. In this book we shall often be confronted with the situation that a suffix shows uniform accentuation except for a few words. It is important to know how to assess these exceptions and what conclusions may be drawn about the original distribution.

Let us take a fictitious example. Fifteen of the derivatives with a suffix X are oxytone, and only three are barytone. There are three probable alternatives for the original distribution:

(1) It is an old distribution, and the paucity of barytona is accidental.

(2) Oxytonesis is original, and the barytona are innovations.

(3) Oxytonesis became productive in this suffix, and only barytona can bear testimony to the original distribution.

There are several ways to determine which alternative is relevant for the suffix X. One may look at later texts in order to check whether the oxytonesis became indeed productive; one may compare the distribution of similar suffixes or the distribution of the same suffix in other languages, etc., but whatever the result may be, a choice must be made among these alternatives. I would like to stress that especially alternative (3) has often been neglected in accentological studies, notwithstanding its frequent relevance.

It is essential for our study that if we opt for alternative (1), we can use all words; if we opt for (2), we can use none (there is no old accentual distribution); and, finally, if (3) proves valid, we can only use the three barytona because the oxytona are ambiguous.

INDO-EUROPEAN ACCENTOLOGICAL EVIDENCE

§ **1.20.** The Indo-European accentological evidence can be taken from Sanskrit, Greek, Germanic, and Balto-Slavic. Traces of PIE accentuation were also searched in other languages, but this evidence has no independent value and is often too uncertain or too sporadic to be used for the reconstruction of the PIE accent. Here is a short survey.

Avestan. The accentological evidence of Avestan is practically limited to the groups *-rt-*, *-rk-*, *-rp-*, where *-r-* became voiceless immediately after the stress, the groups yielding *-ṣ̌-*, *-hrk-*, *-hrp-*, respectively (e.g., *aməṣ̌a-* 'immortal': Skt. *amŕ̥ta-* vs. *mərəta-* 'dead': Skt. *mr̥tá-*; *vəhrka-* 'wolf': Skt. *vŕ̥ka-*, *kəhrp-*: Skt. *kŕ̥p-*, etc.). Other traces of the IE accent in Avestan are either sporadic or fictitious, cf. Beekes 1988: 55ff.

Pashto and other Iranian languages. Morgenstierne (1942: 95ff.) assumed that Pashto stress might reflect IE accentuation (he later developed this idea in his 1973 article). Morgenstierne's thesis was elaborated by Dybo (1974), who presented the available material. The number of correspondences between Pashto and IE accentuation is considerable, but deviations are numerous. Moreover, phonetic changes found in Middle Iranian languages presuppose a strong dynamic accent. Pashto was also affected by various apocopes and syncopes, and it seems implausible that in the course of almost two millennia of dynamic accent Pashto preserved IE accentuation. It seems preferable to explain Pashto accentuation along the lines proposed by Gercenberg 1981, who has shown that the accentological distribution of Pashto is largely in accordance with the Rhythmic Law proposed by Tedesco for Sogdian. This Law explains the outcome of syncope on the basis of a different treatment of heavy and light stems, probably in combination with a stress shift (cf. Gershevitch 1961: 72ff.). Therefore, I am reluctant to use Pashto evidence for the reconstruction of IE accentuation. This holds *a fortiori* for the proposed traces of IE accentuation in Ormuri (Efimov 1985), the material of which is much less reliable than that of Pashto. Studies on the accentuation of Wakhī (Steblin-Kamenskij 1972) and Yidgha (Dybo 1972), mentioned by Ėdel'man (1985: 76), were inaccessible to me.

Italo-Celto-Germanic shortening. In 1961 Dybo surmised that certain unexplained short vowels in Italic, Celtic and Germanic might be due to shortening in pretonic position. Dybo formulated a rule according to which long vowels and resonants were preserved in Italic and Celtic under the stress only and were shortened in unstressed position; in Germanic, the shortening occurred only in a position before an intervocalic resonant. This rule was generally ignored by scholars because of the heterogeneity of Dybo's material and the numerous exceptions. Several attempts have been made to support the rule (Illich-Svitych 1962, Kortlandt 1981), but a close examination of the material (cf. Schrijver 1986) shows that the reliable evidence is too limited for such far-reaching conclusions.

Hittite "plene-writing". It is well-known that certain vowels in Hittite appear with so-called "plene-writing", cf. *-e-* in Hitt. *ne-e-pí-iš*, *-a-* in *a-ta-a-an-zi*. There is no consensus on the interpretation of plene-writing. According to some scholars, plene-writing represents vowel length (Oettinger 1979); according to others, plene-writing represents the IE accent (cf. recently Hart 1980, Carruba 1981). At any rate, it seems certain that plene-writing indicates vowel length of whatever origin. The Hittite long vowels may be due to the accent, but they may also represent IE long vowels (or a combination of short vowels with a laryngeal) or be the result of a Hittite lengthening (cf. Oettinger 1979: 447f). At the present state of the knowledge about Hittite phonology, we cannot consider plene-writing to be evidence for IE accentuation (cf. also Weitenberg 1984: 347ff.).

§ **1.21.** It follows from this survey that we may only rely on the Sanskrit, Greek, Germanic, and Balto-Slavic material. I had planned to dedicate a chapter to each of these (groups of) languages, but was eventually forced to leave the Balto-Slavic material out of consideration. A study of the accentuation of the primary word formation in Balto-Slavic would be very important: Dybo investigated only the secondary derivation and took the accentuation of Slavic underived words for granted ("traditional" in his terms). Reconstructing Balto-Slavic accentual paradigms, however, is a difficult and often ungrateful task because essential information is contained in dialectal materials which are mostly inaccessible.

For instance, the material of the Žemaitian dialects of Lithuanian is indispensable to the reconstruction of the accentuation of Balto-Slavic nouns, since the literary language has generalized accentual mobility in the majority of nouns (see below, § 1.22). The material of these dialects can be found in the card files of the *Dictionary of the Lithuanian Language* and the *Lithuanian Dialect Atlas* (cf. Illich-Svitych § 2), which were inaccessible to me. Without this material a reconstruction of the accentuation of Balto-Slavic nouns would be useless.

I have made use only of those words which are discussed by Illich-Svitych in his monograph on Baltic and Slavic nominal accentuation (and some Slavic words discussed by Dybo 1981). Illich-Svitych's aim was to prove that the Balto-Slavic opposition between fixed and mobile accent corresponded to the opposition between barytona and oxytona in Sanskrit, Greek and Germanic (see § 1.22 below). His material therefore consists of words which have etymological cognates in these languages, and I adduce them in the relevant chapters. A study of Balto-Slavic primary word formation thus remains a task for the future.

In view of the fact that the Sanskrit evidence is undoubtedly the most important for the reconstruction of PIE accentuation, almost half of the present study is dedicated to Sanskrit. The chapters on Greek and Germanic are surveys of the material and do not pretend to exhaustiveness.

BALTO-SLAVIC ACCENTUATION

§ 1.22. Although I do not discuss the Balto-Slavic evidence in a separate chapter, references to it are found throughout the book. Considerable progress has been made in Balto-Slavic accentology in the last thirty years, but the results have not yet found their way into the handbooks. Therefore, I here present the essential facts on Balto-Slavic accentuation which are relevant to the discussion. For a detailed account of Slavic accentuation I refer to Kortlandt 1975, 1978c, Garde 1976, for Baltic accentuation to Kortlandt 1977.

In his monograph on Baltic and Slavic nominal accentuation Illich-Svitych showed that the Balto-Slavic opposition between fixed stress and accentual mobility is historically identical to the opposition between barytona and oxytona which is found in Sanskrit, Greek, and Germanic. This opposition is reflected in Balto-Slavic as follows (AP = "accentual paradigm"):

		Lithuanian	Latvian	Slavic
PIE barytona	roots in a laryngeal	AP 1	¯	AP a
	otherwise	AP 2	ˋ	AP b

PIE oxytona	roots in a laryngeal	AP 3	^	AP c
	otherwise	AP 4	`	AP c

Lithuanian: The bifurcation of PIE barytona into AP 1 and AP 2 and oxytona into AP 3 and AP 4 is the result of de Saussure's Law: The accent shifted from a non-laryngealized (non-acute) vowel to a following laryngealized (acute) vowel. Cf. the following Lithuanian accentual *ā*-stems paradigms (the examples are from Kortlandt 1978c: 271):

	'linden'	'hand'	'head'	'winter'
nom.sg.	*líepa* (1)	*rankà* (2)	*galvà* (3)	*žiemà* (4)
gen.sg.	*líepos*	*rañkos*	*galvõs*	*žiemõs*
nom.pl.	*líepos*	*rañkos*	*gálvos*	*žiẽmos*
acc.pl.	*líepas*	*rankàs*	*gálvas*	*žiemàs*

The root syllable is acute in paradigms (1) and (3) and circumflex in paradigms (2) and (4). The nom.sg. and acc.pl. endings are acute, the gen.sg. and nom.pl. endings are circumflex. In accordance with de Saussure's Law, the accent shifted to the ending in the nom.sg. and acc.pl. of paradigm (2) and in the acc.pl. of paradigm (4). It follows that before de Saussure's Law paradigms (1) and (2), on the one hand, and the paradigms (3) and (4), on the other, were identical.

Latvian: As Latvian retracted the accent to the initial syllable, the only information about the original accentuation can be gleaned from the intonation of this syllable. If the syllabic nucleus of the root syllable was followed by a laryngeal (immediately or not) or a glottalic consonant (see below), the syllable acquired sustained intonation (˜) if the word was a barytonon, and broken intonation (^) if the word was an oxytonon. All other root syllables acquired falling intonation (`).

Slavic:

- Slavic accentual paradigm (a) is characterized by fixed stress on an acute syllable.
- Paradigm (b) is characterized by an alternation between forms with neo-acute tone and forms with a short accent on the immediately following syllable. The neo-acute is due to the retraction of the stress so that paradigm (b) originally had fixed stress on a non-initial syllable.
- Paradigm (c) is characterized by an alternation between forms with circumflex tone on the initial syllable and forms with final stress.

The bifurcation of PIE barytona into AP a and AP b is due to Dybo's Law (sometimes called Illich-Svitych's Law): Any non-laryngealized vowel lost the accent to the following syllable in Slavic.

The above-mentioned distribution is blurred by four developments (cf. Kortlandt 1978c: 273):

(1) Hirt's Law for Balto-Slavic (in the formulation of Illich-Svitych § 31): The accent was retracted to a pretonic vowel if this vowel was immediately followed by a laryngeal. These words thus merged with the barytona of Sanskrit, Greek, and Germanic. Exx.:
Slav. **dymъ* (a), Latv. *dũmi*, Lith. *dúmai* (1) vs. Skt. *dhūmá-* 'smoke';
Slav. **griva* (a), Latv. *grĩva* vs. Skt. *grīvā́* 'neck';
Slav. **pьlnъ* (a), Latv. *pil̃ns*, Lith. *pìlnas* (1) vs. Skt. *pūrṇá-* 'full'.

(2) In Balto-Slavic, barytone neuters became masculine, whereas underived oxytone neuters remained neuter and became barytone.

(3) The Aukštaitian dialects of Lithuanian, which served as a basis for the literary language, have generalized accentual mobility in the majority of nouns. Therefore, the evidence of the Žemaitian dialects or Old Lithuanian is essential for determining the original AP.

(4) Illich-Svitych's Law for Slavic: Accentual mobility was generalized in the masculine *o*-stems which did not have an acute root vowel. This development did not reach the Serbo-Croat dialects of Susak and Istria.

Finally, I must mention Winter's Law for Balto-Slavic (Winter 1978), which has no bearing on the place of the accent but is important for the PIE reconstructions and will often be referred to. According to this Law, a PIE short vowel before an original unaspirated voiced stop became long and acute in Balto-Slavic, whereas a short vowel before an original voiced aspirate remained short, e.g. Lith. *ěsti* 'to eat', OCS *jasti*, Skt. *ádmi* vs. Lith. *vèsti* 'to lead', OCS *vesti*, Skt. *vadhū́-* 'bride'. Winter's Law is one of the strongest arguments in favour of the glottalic theory (cf. § 1.23 below).

PHONEMIC SYSTEM OF PROTO-INDO-EUROPEAN

§ **1.23.** The reconstruction of individual words is bound up with the reconstruction of the PIE phonemic system. It would therefore seem useful to present the PIE phonemic system as used throughout this book.

1. Consonants:
   A. stops:

	plain	glott.	aspirate
labial	*p*	*[b]*	b^h
dental	*t*	*d*	d^h
palatal	*ḱ*	*ǵ*	$ǵ^h$
labio-velar	k^w	g^w	g^{wh}

   B. spirant: *s*
   C. laryngeals: H_1 H_2 H_3

2. Resonants: *i u r l m n*

3. Vowels: *e o ē ō*

Ad 1A. In 1973 Gamkrelidze and Ivanov suggested on typological grounds that the PIE mediae were actually glottalic. Later extensive comparative evidence has been gathered in favour of this theory, for a survey of which I refer to Kortlandt 1985. For the sake of clearness, however, I shall maintain the traditional notation.

As far as the often postulated series of pure velars (*k g* g^h) is concerned, I believe that it is a product of different neutralizations of the palatal and labio-velar series (cf. Steensland 1973), and that it may be dispensed with for the reconstruction of PIE. In PIE already the positions after *s* and before and after *u* were positions of neutralization. In the separate languages, labio-velars often lost their labial feature before **o*, while palatals were depalatalized in position before resonants (cf. Kortlandt 1978b). Nevertheless, not every detail of this process is clear, and sometimes I have been unable to avoid reconstructing a pure velar. It seems that the vicinity of H_2 was also a position of neutralization, but the conditions are unclear and call for further investigation.

Ad 2. It is well-known that every resonant had a vocalic and a consonantal allophone. The rules of vocalization were *einzelsprachlich*, and it is not only superfluous to denote syllabification in PIE reconstructions, but it often leads to unnecessary complications and misunderstandings.

Ad 3. Contrary to what is frequently stated, PIE most probably did not have a phoneme **a* (cf. Lubotsky forthc. *a*). All alleged *a*'s go back to H_2 or to a combination of H_2 with *e*.

§ 1.24. In the reconstructions, I went forth on the basis of the following premises concerning the structure of the PIE root:

(1) Voiced aspirates and voiceless stops cannot simultaneously occur within a PIE root unless preceded by an initial **s*-: the structure Te(R)D^h- or D^{h}e(R)T- was impossible in PIE, but the structure *(s)TeRD^h- is abundantly attested. This means that for apparent TeRD^h- roots we must reconstruct an *s*-mobile (cf. Meillet 1937: 173ff.).

(2) An IE root cannot contain two unaspirated voiced stops: roots of the structure De(R)D- are impossible (cf. Meillet 1937: 173ff.).

(3) An IE root cannot begin with a vowel. Roots which apparently begin with a vowel have an initial laryngeal (cf. Benveniste 1935: 149).

(4) An IE root cannot begin with an **r*-. Roots which apparently begin with an **r*- have an initial laryngeal (cf. Lehmann 1951).

CHAPTER TWO

THE SANSKRIT EVIDENCE

INTRODUCTION

§ **2.1.** It would hardly be an exaggeration to state that PIE accentuation is being reconstructed on the basis of Vedic Sanskrit. Therefore, an extended treatment is accorded to the Vedic evidence, which constitutes the central part of our investigation.

Vedic accentuation is known from accentuated manuscripts, grammatical treatises and Prātiśākhyas, and modern recitation. The latter two sources are used in order to determine the phonetic properties of the Vedic accent, while the place of the accent is mainly established on the basis of the manuscripts. A detailed description of the phonology of Vedic accent and the accent marks in the manuscripts can be found in every handbook on Vedic Sanskrit, so I shall limit myself to mentioning the main points.

§ **2.2.** Vedic accent is free, i.e. there is no restriction on the place of the accented syllable in a word depending on either the number or the quantity of the preceding and following syllables.

In general, every Vedic word has one accented syllable. There are, however, certain groups of words with two accents or with none. Two accented syllables are found in (1) *dvandva*-compounds with both members in the dual: *índrāváruṇā*, *dyā́vāpr̥thivī́*, *mitrā́váruṇā*, and certain compounds with a case form as a first member: *tánūnápat-*, *bŕ̥̥haspáti-*, *vánaspáti-*, *sádaspáti-*, etc.; a combination of these compound types even yields a word with three accents, *índrābŕ̥̥haspáti-*; (2) infinitives in *-tavái*: *étavái*, *ápabhartavái*, etc.

Certain words are enclitic by nature and never appear with an accent, cf. the particles *iva*, *u*, *kam*, *gha*, *ca*, *cid*, *vā*, *sma*, *svid*, *ha*, etc.; the pronouns *mā*, *me*, *tvā*, *te*, *nau*, *nas*, *vām*, *vas*, etc. The pronoun *a-* is sometimes accented and sometimes unaccented, but the unaccented forms never appear at the beginning of a pāda or a sentence; the conjunction *yáthā* when having the meaning 'as, like' can be unaccented at the end of a pāda.

There are moreover two categories of words which can drop the accent under certain syntactic conditions: (1) the vocative is usually unaccented unless it begins the sentence or pāda, where it is accented on the first syllable; (2) the finite verb in a main clause is unaccented, unless it appears at the beginning of a sentence or pāda. The verb is accented at the beginning of a clause or pāda and in a dependent clause whatever its position.

§ **2.3.** Vedic accent was a pitch accent. The main accent of a word is termed *udātta-* 'raised' or 'rising' by Pāṇini. The pitch of the syllable immediately following the *udātta* is called *svarita-* and is described by Pāṇini as a combination of *udātta* and *anudātta-* 'not raised'. The *svarita* is thus a non-autonomous falling accent, marking the transition from a high to a low syllable. The *svarita* becomes an independent accent when the preceding *udātta* syllable is contracted (e.g., *súvar* > *svàr*). This is a post-Vedic development because the metre indicates that in the Ṛgveda the contractions had not yet taken place.

The syllable preceding the *udātta* or independent *svarita* was pronounced lower than the others and is termed by Pāṇini *sannatara-* 'lower'. Pāṇini calls all other syllables *anudātta-*, but the term used in the Prātiśākhyas is *pracaya-* or *pracita-* 'accumulated' because these syllables can occur in an unlimited series.

It follows from Pāṇini's description of the Vedic accentual system and from the Prātiśākhyas that the *udātta* was a rising accent and not just high, as is often suggested. This is confirmed by the accentual marks of the manuscripts. In practically all manuscripts (with the sole exception of ŚBr.) the *sannatara* is marked by a horizontal stroke below the line, while the *udātta* or the *svarita* are marked by a vertical stroke above the line.

The fall of the pitch (*sannatara*) before the main accent (*udātta* or independent *svarita*) was essential for the correct understanding of the text: in the sequence *kákaká* the middle syllable is a *sannatara* and not *svarita*. Moreover, it is the obligatory fall in pitch which causes problems if an independent *svarita* is followed by an *udātta*. In this case, one had to pronounce both the *svarita* and the *sannatara* within one syllable, which induced a protraction of the syllable and a peculiar quaver of the voice called *kampa* (cf. also Lubotsky 1983: 172 on the rising character of the *udātta* in the MS).[3]

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[3] The rising character of the *udātta* also accounts for the fact that the Indian grammarians do not agree in their description of the tone movement of the dependent *svarita*. Pāṇini describes the dependent *svarita* as falling, whereas according to the RV Prātiśākhya and the TS Prātiśākhya the first part of the *svarita* is higher pitched than the *udātta*, i.e. the *svarita* combines rising and falling tone movements. The highest tone of the *svarita* can be deduced from the manuscripts marks of RV and TS (a horizontal stroke above the line) and is also attested in modern recitation. If the *udātta* were a high tone,

Selection of the material

§ 2.4. For the present investigation I have taken the material of the Ṛgveda, which is the oldest and most important source of Sanskrit accentuation.[4] The reverse index of Grassmann's *Wörterbuch zum Rigveda* served as a basis for the selection.

I have limited myself to disyllabic nouns, as we have here only two alternatives: barytonesis or oxytonesis. I made an exception for trisyllabic nouns with a connecting *-i-* (the *iṭ* of Indian grammarians) because these contained two syllables before the vocalization of the laryngeals.

Furthermore, I have used only nouns formed with monosyllabic suffixes. Disyllabic suffixes generally show productive accentuation patterns and are less significant for the phonetic distribution. Only the suffix *-ana-* seems to have preserved an old accentual distribution, and I have presented the material in an appendix, §§ 2.80ff.

I have omitted the following categories of words from the corpus:

(1) Words belonging to morphologically productive categories with invariable accentuation (in the sequel, I shall call this accentuation "categorial"), e.g., infinitives in *-áye*, gerunds in *-tvā́*, neuters in *-u-*, etc. The accentuation of these words is morphologically determined and cannot testify to a phonetic distribution.

(2) Words belonging to categories where the accentuation is determined by semantic criteria. For example, the deverbativa in *-a-* are oxytone when denoting nomina agentis and largely barytone when denoting nomina actionis. Similarly, nomina instrumenti or loci with the suffix *-tra-* are barytone, while nomina abstracta with the same suffix are oxytone.

(3) Words not containing the suffix under which they are listed by Grassmann.

(4) Non-existent words, i.e. words proved by later investigators to belong to another stem or category. Words which do not occur in the Ṛgveda, although given by Grassmann (as they form the basis of a verbal stem or occur *in fine compositi*), are omitted too.

(5) Words of non-Indo-European origin.

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the initial rise of the *svarita* would be incomprehensible. On the other hand, if we assume that the *udātta* was a rising tone, it seems understandable that in some dialects the rising continued into the following syllable.

[4] The material of the Atharvaveda is less reliable because this text, as we have it, represents the tradition of only a few Brahmanic families (Prof. Witzel, p.c.). Moreover, the Atharvaveda shows several accentological innovations as compared with the Ṛgveda, cf. § 2.11 on the accentuation of the suffix *-ti-*.

(6) Words of uncertain **meaning** and/or etymology, given as such by Mayrhofer. If his position seems unwarranted to me, the evidence is discussed.

(7) Proper nouns.

(8) Compounds. For words which occur only as a member of compounds see below.

(9) Onomatopoeic words and *Lallwörter*.

(10) Reduplicated nouns like *cákri-*, *pípru-*, etc.

(11) Denominal formations. These words are omitted because in secondary derivation the accentuation of the original noun plays an essential role: the denominal formation retains the accentuation of the original noun or shows contrastive accentuation. On the other hand, denominals of PIE date are included in the evidence, as their formation may be anterior to the rise of the accentological distribution which we are investigating.

(12) Words derived from secondary verbal stems.

(13) Nonce forms.

(14) Pronouns and numerals.

All words omitted from Grassmann's reverse index are explicitly mentioned under every suffix, so that everybody can check the procedure, and the material can easily be adjusted as new etymologies or analyses may become available in the future.

§ **2.5.** The remaining corpus is completed with words proved by later investigators to contain the relevant suffix (cf. § 2.4 ad 3) and words occurring only in compounds. The first members of compounds, if accented, are included in the evidence without restriction, but words occurring only *in fine compositi* must meet the following three requirements.

- Firstly, they must be barytone in view of the bias of Sanskrit compounds toward oxytonesis (cf. AiGr. II,1: 42). All oxytone second members are ambiguous as far as their accentuation is concerned.
- Secondly, barytonesis must not be productive in this type of compounds. The second members of the *su-kára-* type of compounds (*su-kára-* 'easy to be done') are, for instance, always barytone, irrespective of the original accentuation.
- Thirdly, we must be sure that the barytonesis of the second member is not due to Wackernagel's Law. According to this Law, accented *-í-*, *-ú-*, *-ŕ̥-*, *ĺ̥-*, *-ń̥-*, *-ḿ̥-* lost their accent to the following syllable in PIE (Wackernagel 1969-79: 1108ff.). Accordingly, if we find a compound (usually *bahuvrīhi*-compounds, which are normally accented on the first member) with a barytone second member and a first member ending in

-í-, *-ú-*, *-ṛ́-* or *-an-* (< *-ṇ́-*), the compound does not provide evidence for the barytonesis of the second member.[5]

With these restrictions, it seems safe to assume that the accentuation established on the basis of compounds corresponds to that of the simplicia (cf., however, a few exceptions mentioned in AiGr. II,1: 42). It goes without saying that the evidence of compounds remains inferior to that of simplicia.

Presentation of the material

§ 2.6. The material is presented in accordance with the stem formation (cf. § 1.16). The order is the following: *i*-stems, *u*-stems, *a*-stems, laryngeal stems (*ī*-, *ū*-, *ā*-stems), *r*- and *n*-stems. The other stems do not provide evidence for the distribution we are looking for. The material of every group of stems is followed by an evaluation and a summary. The *i*- and *u*-stems are evaluated together as well as the *r*- and *n*-stems.

The alphabetical order used in this chapter is that of the *devanāgarī* alphabet. For every single suffix I first discuss its general accentological tendencies in order to exclude words with productive and categorial accentuation (cf. § 2.4 ad 1 and 2). Then follows the evidence: the list of words omitted from Grassmann's reverse index and the material proper, first barytona in alphabetical order, then oxytona.

Every word in the material proper is given a mark (+, ? or –). This mark indicates in which category the word will be placed at the final evaluation.

"+" means that the etymology of the word is well established and that there is no reason to doubt the authenticity of the accentuation.

"?" means that there are doubts as to the etymology or accentuation of the word. This mark is also assigned to all words with a plausible Indo-Iranian etymology if connections outside this branch are uncertain.

"–" indicates that the word belongs to one of the categories listed in § 2.4 and cannot therefore be used.

Each word is supplied with the following data: gender, translation, place of occurrence if it is a hapax, verbal root from which it is derived, translation of the root and etymology of the root. Only if the word is not derived from a Sanskrit verbal root, the etymology of the *word* is presented. (I chose for this approach in order to avoid the awkward notation *e/o*, etc., as the Sanskrit form is often insufficient for a PIE reconstruction.) Furthermore, relevant accentological evidence from other languages is adduced.

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[5] On the other hand, this Law sometimes allows us to determine the original accentuation of a word attested only as the first member of a compound and not accented. For instance, the *bahuvrīhi*-compounds *śitipád-* 'with white feet' and *śitipṛṣṭhá-* 'with white back' are accented on the second member, which must be due to Wackernagel's Law. From these compounds we can extract the oxytone adjective **śití-* 'white'.

Unless a statement to the contrary is made, etymological analyses and reconstructions are based on Mayrhofer.

Evaluation of the material

§ **2.7.** As was indicated in § 1.16, the preliminary investigation has revealed that the suffixes of the *i*- and *u*-stems, on the one hand, and the suffixes of the *a*-stems, on the other, show an identical accentological distribution. This enables us to consider the suffixes of *i*- and *u*-stems together.

In the sections dedicated to the evaluation I shall arrange the material according to the root structure (for the categories of root structure see § 1.17). Every category will be discussed separately. In the evaluation sections I put a hyphen between the root and the suffix in order to facilitate locating the evidence.

THE *i*- AND *u*-STEMS

§ **2.8.** The Sanskrit evidence for the accentuation of the *i*- and *u*-stems is of special importance because the other languages have undergone large-scale innovation in these categories. In Greek there are almost no traces of the original distribution: all *i*-stems became barytone, while the *u*-stems created a new opposition, viz. oxytone adjectives vs. barytone nouns (cf. § 3.3ff.). All Germanic languages except Gothic have generalized oxytonesis in the *i*-stems (cf. § 4.2), while Balto-Slavic mostly shows the mobile accentual type in both *i*- and *u*-stems (Illich-Svitych §§ 22-3 and 56-7).

On the other hand, in Sanskrit we find almost no productive accentuation patterns with the *i*- and *u*-stems. One can mention only the barytonesis of the neutra, typical for consonant stems, and the oxytonesis of the suffix *-nu-*.

In the following, I first present the *i*-stems suffixes, and then the *u*-stems suffixes. No attention has been paid to the original type of inflection (proterodynamic vs. hysterodynamic).

THE *i*-STEMS

The suffix *-i-*

§ **2.9.** The suffix *-i-* forms nomina actionis and nomina agentis m. and f. The neuter gender of *añjí-* is secondary (see s.v.). Also the nom.sg.n.

hā́rdi 'heart' is a recent formation based on the root noun, as evinced by the lengthened grade in the root.

Words with long *ā* in the root are included in the material with a question mark because their origin is ambiguous. The long *ā* may be due to Brugmann's Law, but it may also be a continuation of the lengthened grade, if these words are derived from original root nouns. In the latter case, the *i*-derivatives are of denominative origin and cannot be used.

Five *i*-derivatives which only occur in the dative, serving as infinitives, are not included in the material: *iṣáye* (6,52,15), *tujáye* (5,46,7), *dṛśáye*, *maháye* (10,65,3), and *yudháye*. These words show uniform oxytonesis and thus do not bear testimony to the original distribution.

Furthermore, I have omitted second members of *tatpuruṣa*-compounds which are derived from *seṭ*-roots and are always accented on the penult: °*gṛ́bhi*-, °*táni*-, °*bhári*-, °*máthi*-, °*múri*-, °*rákṣi*-, °*váni*-, °*sáni*-, and °*sváni*-; *ājā́ni*- (3,17,3) is unclear; *go-dari* and *ā-duri* occur only in the vocative.[6] It appears that these words are root nouns (cf. AiGr. II,2: 294ff.) in which the final laryngeal had become vocalized (*-*H̥*# > -*i*). This explains the unusual accentuation of these compounds (AiGr. II,1: 224), as laryngeals probably could not bear the stress. Several second members in -*i* have parallel forms without -*i* (nom.acc. pl. *āmúras* vs. acc.sg. *āmúrim*, °*sā́*- vs. °*sáni*-, °*gṛ́bh*- vs. °*gṛ́bhi*-, etc.), which supports this analysis. For the original paradigm of these compounds I refer to Beekes 1982-3: 200f.

§ 2.10. THE EVIDENCE.

The following words from Grassmann's reverse index are omitted:

(1) For nom.sg.n. *hā́rdi*, dative infinitives in -*áye*, and second members of compounds °*gṛ́bhi*-, °*táni*-, °*váni*-, etc. see above, § 2.9;

(2) For *ákṣi*- see under the *n*-stems; for *jāmí*- and *nemí*- see under the suffix -*mi*-;

(3) Original stems in a laryngeal: *jáni*-, *páthi*-, *máthi*- and *máhi*-;

(4) Non-existent words *vyáthi*- (= *vyáthiṣ*-), *sádhi*- (= *sádhiṣ*-), *nā́ri*- (= *nā́rī*-), *hā́ri*- (= *hári*- in compounds with *vṛddhi* of the initial syllable);

(5) Words of non-IE origin: *kapí*- m. 'monkey', *kīrí*- adj. 'small, humble';

(6) Words of uncertain meaning and/or etymology:

arí- m. 'stranger, guest',
āṇí- m. 'pin of the axle',
kāśí- m. 'fist',
képi- '?' (10,44,6),
khādí- m. 'bracelet, ring',
turí- '?' (10,106,4),

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[6] For the *seṭ*-character of √*bhṛ*- cf. *bharítra*-, *bhárīman*-, °*bhará*- (Kuryłowicz 1927: 212), for that of √*tan*- cf. Beekes 1985a.

dhráj° in *dhrájīmant-* 'gliding, moving',
dhrā́ji- f. 'draught of air, wind',
paṇí- m.pl. 'name of a class of hostile demons',
pádi- m. '?' (1,125,2),
paví- m. 'wheel-band, metallic point of a spear or arrow',
plāśí- m. 'a particular part of the intestines',
balí- m. 'tribute',
múni- m. 'sage',
védi- f. 'grass strewn on the place of the sacrifice',
svā́ni- '?' (6,46,14; 9,66,9);

(7) Proper nouns: *kalí-*, *túji-*, *pṛ́thi-*, *platí-*, *sádhri-*, the demon's name *grā́hi-*, name of a tribe *cedí-*;

(8) Compounds *ádri-*, *áhri-*, *ādhí-*, *nidhí-*, *nīḍí-*, *pradhí-*, *vṛ́ci-*, *vyáti-*, *sūrí-*, *svarí-*, *svarcí-*, *svāpí-*;

(9) Onomatopoeic words, *Lallwörter*: *ambí-* f. 'mother', *jálpi-* f. 'murmur, whisper', *dhúni-* adj. 'roaring, boisterous', *meḷí-* m. 'crackling';

(10) Reduplicated nouns of the type *cákri-*;

(11) Words formed from secondary roots: *mandí-* adj. 'delighting'.

Barytona

+ *ávi-* m.f. 'ram, sheep' < **H_3eu-i-*. The reconstruction of initial **H_3e-* and not **Ho-* follows from *h-* in Arm. *hoviw* 'shepherd' < **H_3eu̯i-pā* (Kortlandt 1983b: 12). The barytonesis is confirmed by Lith. *avìs* 'id.', which has barytone forms in Daukša (Illich-Svitych § 22). Gr. ὄϊς cannot testify to the original PIE accentuation because Greek *i*-stems are always barytone (cf. § 3.3).

+ *áhi-* m. 'snake' < IIr. **Haǰ^h-i-* (for LAv. *aži-* cf. Reichelt 1909: 45) < **Hog^{wh}-i-*/**H_3eg^{wh}-i-*. There are two possible reconstructions of the Indo-Iranian word: **H_2ng^{wh}i-* (cf. Lat. *anguis*, Lith. *angìs*, acc.sg. *ãngį*, Slav. **ǫžь*, etc.) or **Hog^{wh}i-*/*H_3eg^{wh}i-* (cf. Gr. ὄφις).[7] Since in the first case we must assume zero-grade in the IIr. word, which is not attested elsewhere, the latter alternative seems more attractive.

+ *ṛ́ji°* in *ṛ́jīti-* 'hastening straight on': √*ṛj-* 'to stretch', PIE √**H_3reǵ-*.

– *ṛ́ṣi-* m. 'seer, poet'. The etymology is unclear. The connection with √*arṣ-* 'to flow' (see Mayrhofer s.v.) is semantically unsatisfactory, while other words mentioned by Mayrhofer cannot be cognate for formal reasons. MHG *rāsen* 'to rage' is rather connected with Gr. ἐρωή 'urge' and therefore contains the root **H_1reH_1-*. Lith. *aršùs* is a recent formation (Fraenkel 16f.). The etymology of Arm. *heṙ* is uncertain.

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[7] Gr. ἔχις 'adder' contains *-ǵ^h-* in view of ἐχῖνος 'hedgehog', derived from ἔχις, which corresponds to Arm. *ozni* 'id.'. Gr. ἔχις and Skt. *áhi-* cannot therefore be cognate, cf. Frisk s.v. ἔχις.

? _túrvi-_ adj. 'superior' (9,42,3): √_tūrv-_ 'to overcome', IIr. √_*tarH-u-_, a secondary root, based on PIE √_*ter_H_2-.

+ _tviṣi-_ f. 'impetuosity, glitter': √_tviṣ-_ 'to be excited, shine, glitter', PIE √_*tueis-_.

? _dúdhi-_ adj. 'boisterous' < _*d_^{h}_ud_^{h}_-i-_ (?).

? _nā́bhi-_ f. 'nave (of a wheel), navel' can go back to _*_H_3_nob_^{h}_-i-_ with _-ā-_ due to Brugmann's Law, but it is more probably derived from a root noun in view of the different stem formations in other languages (Gr. ὀμφαλός, OHG _naba_, etc.). Skt. _nábhya-_ n. 'nave' is formed from the same noun, but without _vṛddhi_.

+ _páti-_ m. 'master, husband' < _*pot-i-_. The same accentuation is attested in Lith. _pàts_ (Daukša _pátis_, Illich-Svitych § 22), while Gr. πόσις 'husband' and Goth. °_faþs_ 'master' are ambiguous (cf. §§ 3.3 and 4.3). Even if _páti-_ is derived from the particle _*pot-_, it is a denominative of PIE date.

? _plúṣi-_ m. 'flea' < IIr. _*pluš-i-_. The PIE form cannot be reconstructed in view of irregular (tabooistic) changes in the separate languages, cf. Gr. ψύλλα, Lith. _blusà_, Lat. _pūlex_, OHG _flōh_, etc.

+ _bhṛ́mi-_ adj. 'mobile, impatient': √_bhram-_ (ŚB. +) 'to move unsteadily', PIE √_*b_^{h}_rem-_. In 2,34,1 _bhṛ́mi-_ is a noun, probably denoting a kind of wind instrument (Renou EVP X, 74f.). Compare _bhṛm-í-_.

+ _ráṁhi-_ f. 'haste, stream': √_raṁh-_ 'to speed, hasten', PIE √_*_H_1_leng_^{wh}-.

? _rā́ji-_ f. 'line, direction' (10,100,12): √_ṛj-_ 'to direct, stretch', PIE √_*_H_3_reǵ-_. In 10,105,2 we find _rají-_ probably in the same sense as _rā́ji-_ (cf. Geldner ad loc.; 6,26,6 _rají-_ is a name of Indra's enemy). The accentuation of one of the two variants must be secondary. Possibly, it was _rā́ji-_ because this word occurs in the formula _rā́jiṣṭhayā rā́jyā_ and may have adopted the accentuation of the preceding word. This consideration is not compelling, however, and I put a question mark to both _rā́ji-_ and _rají-_.

? _rándhi-_ f. 'subjection' (7,18,18): √_randh-_ 'to subdue', IIr. √_*randh-_. The IE etymology of the root is unknown.

? _rábhi-_ m. 'a part of a chariot, elbow-rest (?)' (8,5,29): √_ra(m)bh-_ 'to lean upon', PIE √_*Hremb_^{h}- (?).

+ _śúci-_ adj. 'shining, bright, pure': √_śuc-_ 'to shine, glow', PIE √_*(s)ḱeuk-_. The _s_-mobile follows from the root variants _śubh-_ 'to adorn' and _śundh-_ 'to clean', which otherwise would have an impossible root structure _*Te(R)D_^{h}- (Benveniste 1935: 147f.).

− _sákhi-_ m. 'friend' < _*sok_^{w}_Hi-_. The presence of the laryngeal shows that _sákhi-_ is not directly derived from √_sac-_ 'to follow', but from a noun with a laryngeal suffix. Accordingly, _sákhi-_ is a denominative formation.

+ _hári-_ adj. 'pale, yellowish', m. 'yellowish horse' < _*ǵ_^{h}_el(H)-i-_. The root for 'yellow, green, golden' appears in the IE languages both with and without a final laryngeal (Gr. χλωρός, Skt. *híraṇya-*, etc. with a laryngeal vs. Lat. *helvus*, Lith. *žel̃vas*, etc. without a laryngeal). The presence of a laryngeal in *hári-* is uncertain. The compound form *híri°* 'golden' belongs to *híraṇya-* 'gold' and cannot testify to a laryngeal in *hári-*.

+ *hárṣi-* in adv. *hárṣyā* 'in excitement': √*hṛṣ-* 'to be excited, rejoice', PIE √*$g^{wh}ers$-.

? *híri°* adj. 'golden' < *$\acute{g}^{h}lH\text{-}i$-. The accentuation follows from *híriśmaśru-* adj. 'with golden beard' and *hírīmant-* adj. 'golden'. On the other hand, the oxytonesis of the *bahuvrīhi*-compound *hiriśiprá-* 'with golden moustache' can only be explained if we reconstruct *$hir\acute{i}$° with the accent shift in accordance with Wackernagel's Law. The original accentuation is therefore unclear.

+ *hṛ́ṣi°* in *hṛ́ṣīvant* adj. 'joyful, cheerful': √*hṛṣ-* 'to be excited, rejoice', PIE √*$g^{wh}ers$-.

Oxytona

− *añjí-* m.f.n. 'ornament', adj. 'distinguished': √*añj-* 'to manifest', PIE √*$Heng$- (Kuiper 1952: 78f.).[8]

+ *arcí-* m. 'beam, flame': √*arc-* to shine, praise', PIE √*$Herk^{w}$-.

+ *así-* m. 'sword, sacrificial knife' < *$(H)ns\text{-}i$-.

? *ājí-* m.f. 'running-match, contest': √*aj-* 'to drive', PIE √*$H_2e\acute{g}$-. The long *ā* can be due to Brugmann's Law (*$H_2o\acute{g}i$- > ājí-) or continue the lengthened grade of a root noun, if the word is of denominal origin.

+ *āpí-* m. 'friend' < *$H_1eH_1p\text{-}i$-.

+ *kaví-* adj. 'skilful, wise', m. 'seer, poet' < √*kū-* (ŚB. +) 'to intend', PIE √*$(s)keuH$-. The original accentuation of Gr. κοίης 'priest' cannot be determined because of the limitation law.

+ *kṛtí-* m.f. '(butcher's) knife': √*(s)kṛt-* 'to cut', PIE √*$(s)kert$-.

+ *kṛṣí-* f. 'furrow, ploughing': √*kṛṣ-* 'to make furrows, plough', PIE √*$k^{w}els$- (cf. Oettinger 1979: 204).

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[8] As there are no oxytone neuters among the consonant stems, the neuter gender of *añjí-* requires an explanation. The neuter *añjí-* occurs 4 times directly before √*añj-* forming a *figura etymologica* (1,124,8; 4,58,9; 7,57,3; 8,29,1), and once (8,20,11) as a nom.sg. The latter place (*samānám añjy èṣām* 'equal are their ornaments') is strongly reminiscent of 7,57,3 *samānám añjy àñjate* 'they show off the same ornaments' and must be secondary. From the 7,57,3 passage and 8,29,1 *añjy àṅkte hiraṇyáyam* follows that *añjí* is acc.n., but the original expression was probably *añjī́* √*añj* 'to ornament with ornaments' where *añjī́* was instr.sg.f. In this *figura etymologica* the final *-ī́* of *añjī́* was shortened and later interpreted as acc.sg.n.

+ _krīḍí-_ adj. 'quick, impulsive': √_krīḍ-_ 'to move quickly, boisterously', PIE √*_ḱrisd-_. The _k-_ in Skt. is probably due to Weise's Law (depalatalization before *_r_, Weise 1881: 115f.).

+ _girí-_ m. 'mountain, hill' < *_grH-i-_. Possibly, we may reconstruct *_ǵrH-i-_ and assume depalatalization of _ǵ_ before *_r_ (Weise 1881: 115f.).

? _granthí-_ m. 'knot, tie': √_granth_^{i}- 'to tie', IIr. √*_grantH-_. Further connections are uncertain.

? _ghāsí-_ m. 'food, nourishment': √_ghas-_ 'to consume, eat', IIr. √*_g_^{h}_as-_. Connections outside IIr. are uncertain.

+ _tuví°_ adj. 'strong' < *_tu_H_2_-i-_. The accentuation follows from compounds _tuvídeṣṇa-_, _tuvíbrahman-_, _tuvívāja-_, _tuvíśravas-_, _tuvī́magha-_, and from _tuvigrī́va-_ with Wackernagel's Law (the simplex _grīvā́-_ is oxytone).

+ _dabhí°_ in compound _dabhī́ti-_ 'deceiver' (4,41,4; elsewhere it is probably a personal name): √_dabh-_ 'to injure, deceive', PIE √*_d_$^{(h)}$_eb_^{h}-.

? _draví-_ m. 'reaper, mower' (6,3,4): √_drū-_ 'to cut down', IIr. √*_druH-_ (Hoffmann 1975-6: 420). Connections outside IIr. are unknown.

? _drāpí-_ m. 'mantle, garment': IIr. √*_drap-_ 'to dress', PIE √*_drep-_. The _ā_ can be due to Brugmann's Law (*_dropi-_ > _drāpí-_) or continue the lengthened grade of a root noun, if the word is of denominal origin.

+ _dhruví-_ adj. 'firm' (7,35,8) < *_d_^{h}_ruH-i-_. Generally, Skt. _dhruví-_ and _dhruvá-_ are held to be somehow connected with the word for 'wood', but this view can hardly be maintained. For Indo-Iranian we must reconstruct *_d_^{h}_ruu̯a-_ = *_d_^{h}_ruHa-_ (cf. Av. _drva_, OP _duruva_ 'gesund, heil'), which deviates considerably from *_doru-_ 'wood'. The IIr. word can be directly connected with Lith. _drū́tas_ 'firm' and OPr. _druwi-_ 'faith' < *_d_$^{(h)}$_ruH-_. Also OCS _sъ-dravъ_ 'healthy' contains this root. The _Verschärfung_ in PGerm. *_treu̯u̯az_ (Goth. _triggws_, OIc. _tryggr_, etc.) also points to the presence of a laryngeal in the root, but the initial consonant must continue PIE *_d-_.

+ _nr̥tí-_ f. 'dance, play': √_nr̥t-_ 'to dance', PIE *H_2_nert-_. For the reconstruction cf. Kuiper 1951: 224.

+ _bhují-_ f. 'granting of enjoyment': √_bhuj-_ 'to enjoy', PIE √*_b_^{h}_eug-_.

- _bhr̥mí-_ f. 'mobility (?)' (3,62,1): √_bhr̥m-_ 'to move unsteadily', PIE √*_b_^{h}_rem-_. The translation of the hapax _bhr̥máyaḥ_ is difficult. Geldner translates 'Übereifer', Renou EVP XVI: 102 chooses for 'allant rapidement au but'. The accentuation is most probably secondary, cf. s.v. _bhŕ̥m-i-_.

+ _maṇí-_ m. 'necklace, jewel' (1,33,8) < *_monHi-_ with irregular _-ṇ-_ < _-n-_. The presence of a laryngeal is probable in view of the short vowel in Sanskrit (Brugmann's Law).

? _rají-_ see _ráj-i-_.

+ _rayí-_ m.f. 'goods, wealth': √_rā-_ 'to give, bestow', PIE √*_HreH_$_1$-.

The Phonetic development of $*HreH_1$-*i-* is Skt. *re-*, reflected in *revánt-* 'rich' (the form *rayivánt-* is clearly secondary). The laryngeal has been restored in the paradigm of *rayí-* on the basis of oblique cases (cf. gen.sg. *rāyás* < $*HreH_1$-*i-os*) which resulted in the form **raʔi-* appearing as *rayí-*.

? *rāśí-* m. 'heap, mass' < IIr. **rāć-i-*. Connections outside IIr. are uncertain.

+ *śití°* in *śitipṛṣṭhá-* 'with white back', *śitipád-* 'with white feet'. These *bahuvrīhi*-compounds are accented on the second member, which can only be explained by Wackernagel's Law. This points to original oxytonesis of the adjective. As Debrunner noticed (1938: 171ff.), *śiti°* appears in Vedic only as a first member of compounds, the second member of which began in a labial consonant. Accordingly, *śiti°* is most probably dissimilated from *śviti°* (cf. Skt. *śvityáñc-* and Av. *spiti.dōiθra-* 'with white eyes'), which is derived from the root √*śvit-* 'to be white', PIE √**ḱueit-*. In spite of the dissimilation, the accentuation of *śiti°* may be old.

+ *saní-* m. 'gaining': √*san*^{i}- 'to gain, obtain', PIE √$*senH_2$-.

The suffix *-ti-*

§ **2.11.** The derivatives in *-ti-* are predominantly feminine nomina actionis. For the few masculines it can generally be demonstrated that their gender is of secondary origin (Liebert 1949: 89f., 129f.).

The only certain infinitive *ityái* is included in the material because there is no evidence for categorial oxytonesis (cf. MS *sā́ḍhyai*).

Two words (*śakti-* and *tṛpti-*) are attested with both accentuations, but I believe that the oxytonesis is original. Since the Atharva-Veda we observe the spread of barytonesis in the *-ti-* derivatives (AiGr II,2: 631f.), and as the barytone variants of the words *śakti-* and *tṛpti-* occur only in the late parts of RV, it seems plausible to assume that the spread of barytonesis had already begun in RV.

The oxytone second members of compounds (°*ṛktí-*, °*dītí-*, °*nītí-*, °*bhṛtí-*, °*saktí-*, etc.) are not included in the material (cf. § 2.5 above).

§ **2.12.** The Evidence.

The following words from Grassmann's reverse index are omitted:

(1) For *páti-* see under the suffix *-i-*;

(2) Non-existent words: *nákti-* (= *náktī-*), *śráuṣṭi-* (= *śráuṣṭī-*), *sániti-* (= *sánitu-*);

(3) Words of uncertain meaning and/or etymology: *gṛṣṭí-* f. 'young cow' (4,18,10), *práṣṭi-* m. 'leader-horse, side-horse (?)';

(4) Name of a mythical race *yáti-*;

(5) Onomatopoeic *cítti-* f. 'crackling';
(6) Denominative formation *paṅktí-* f. 'group of five' (10,117,8);
(7) Pronominalia *káti-*, *yáti-*;
(8) Numeral *ṣaṣṭí-*.

Barytona

+ *íṣṭi-* f. 'sacrifice': √*yaj-* 'to offer', PIE √*ieH$_2$ǵ-. For the reconstruction of the medial laryngeal see Lubotsky 1981 and forthc. *a*.
+ *kṛ́tti-* f. 'skin, hide': √*(s)kṛt-* 'to cut', PIE √*(s)kert-.
+ *gáti-* f. 'moving': √*gam-* 'to go', PIE √*g^{w}em-. Goth. *ga-qumþs* 'assembly' confirms the barytonesis.
+ *cítti-* f. 'thinking': √*cit-* 'to perceive, observe', PIE √*(s)keit-. Slav. *čьstь (c) shows generalized oxytonesis (cf. Illich-Svitych § 57).
+ *jíti-* f. 'conquest' (10,53,11): √*ji-* 'to win, conquer', PIE √*g^{w}ei-.
+ *júṣṭi-* f. 'favour, love': √*juṣ-* 'to enjoy, be fond of', PIE √*ǵeus-.
- *tṛ́pti-* see s.v. *tṛp-tí-*.
- *dā́ti°* in *dā́tivāra-* 'bountiful' is most probably a verbal form (Liebert 1949: 59f., AiGr. II,1: 320f.).
- *díti-* f. is a *Rückbildung* to the name of the goddess Áditi (Liebert 1949: 36ff., Mayrhofer s.v.).
+ *dṛ́ti-* m. 'leather-bag': √*dṛ-* 'to burst, tear', PIE √*der-. Goth. *gataurþai* dat.sg.f. 'destruction' confirms the barytonesis. From Russ. *dertь* 'cleared land', Czech. *drt* 'saw-dust' it does not seem possible to reconstruct the original accentual paradigm.
+ *dhū́ti-* pl. 'shaker, agitator': √*dhū-* 'to shake, agitate', PIE √*d^{h}euH-. This word is used only in nom. and voc. pl. applying to the Maruts.
+ *dhrúti-* f. 'violation (of order)' (7,86,6): √*dhvṛ-* 'to injure', PIE √*d^{h}uer-. For the metathesis *CurC* > *CruC* see AiGr. I: 206.
+ *yáti-* f. 'guidance, guide (?)' (cf. Liebert 1949: 131): √*yam-* 'to hold, lead', PIE √*iem-. The passage 9,71,7 *yátiḥ parāyáti* is rather obscure. As Renou EVP IX, 82 comments, "le *yátiḥ parāyáti* qu'on a ici semble une réfection artificielle sur *(ā)yatí : parāyatí* qu'on a passim". The only other occurrence of *yáti-* is 7,13,1 where it applies to Agni. Renou EVP XIII: 145f. considers also an alternative derivation of *yáti-* from √*yat-*.
+ *ránti-* f. 'rest, refreshment': √*ram-* 'to rest, enjoy', PIE √*Hrem-.
- *váṣṭi-* adj. 'willing, ready (?)' (5,79,5): √*vaś-* 'to wish, desire', PIE √*uéḱ-. Neither the exact meaning (cf. Geldner ad loc.) nor the formation (Liebert 1949: 47 thinks of a substantivized verbal form) of this word are clear.
+ *vṛ́ddhi-* f. 'strengthening, refreshment': √*vṛdh-* 'to increase', PIE √*uerd^{h}-.

- _śákti-_ see s.v. _śak-tí-_.

+ _śúpti-_ f(?). ‘shoulder’ (1,51,5) < *_(s)ḱupti-_.

+ _śrúti-_ f. ‘hearing’: √_śru-_ ‘to hear’, PIE √*_ḱleu-_.

- _sápti-_ m. ‘team of horses, horse’. The etymology is uncertain. Mayrhofer (s.v.) tries to defend an old connection with √_sap-_ ‘to foster, seek for, help’ assuming that IIr. √_sap-_ meant ‘to hold, keep’ and that the original meaning of _sápti-_ was ‘holding together, team’. In my opinion, this connection is improbable, since _sap-_ never means ‘to hold’ in Vedic, while Av. _hap-_ means ‘to help, serve’, too (cf. the translation of Y.31,22 and 43,4 in Insler 1975). We must probably return to the etymology deriving _sápti-_ from _saptá_ ‘seven’.

Oxytona

+ _ātí-_ f. ‘an aquatic bird’ < $^*H_2nH_2$-_ti-_.

+ _ití-_ f. ‘going’: √_i-_ ‘to go’, PIE √$^*H_1ei$-. The word occurs only as the infinitive _ityái_ (1,113,6; 1,124,1).

+ _iṣṭí-_$_1$ f. ‘wish’: √_iṣ-_ ‘to seek for, desire’, PIE √$^*H_1eis$-.

+ _iṣṭí-_$_2$ f. ‘haste, inducement’: √_iṣ_^{i}- ‘to send’, PIE √$^*HisH_1$-. For the loss of the interconsonantal laryngeal see Kuiper 1947: 206ff.

+ _ūtí-_ f. help’: √_av_^{i}- ‘to help’, PIE √$^*H_2euH$-.

+ _r̥ṣṭí-_ f. ‘spear’: √_r̥ṣ-_ ‘to pierce’, PIE √$^*H_2ers$- (if connected with Hitt. _ḫarš-_, Oettinger 1979: 193).

+ _kīrtí-_ f. ‘fame, glory’ (10,54,1): √_kr̥̄-_ ‘to praise’, PIE √$^*keH_2r$-. The position of the laryngeal follows from Skt. _kār-ú-_ (see s.v.), Gr. κήρυξ < $^*keH_2r$-_u-_, Skt. _kārá-_, etc. The Germanic root *_hrō-_ < $^*kreH_2$- (OIc. _króðr_, OHG _(h)ruom_ ‘praise’, etc.) is probably of secondary origin, being formed after the metathesis *-H_2r- > *-rH_2- had taken place in the zero-grade.

+ _kr̥ṣṭí-_ f. ‘boundary’, pl. ‘people’: √_kr̥ṣ-_ ‘to make furrows, plough’, PIE √$^*k^wels$- (see for the root s.v. _kr̥ṣ-í-_). For the semantic development cf. Thieme 1968.

+ _kṣātí-_ f. ‘glow, heat’: √_kṣā-_ ‘to burn’, PIE √*_ḱ_seH_1- (or √$^*k^wseH_1$-).

+ _kṣití-_ f. ‘abode’: √_kṣi-_ ‘to live’, PIE √*_tḱei-_.

+ _gūrtí-_ f. ‘praise’: √_gr̥̄-_ ‘to invoke, praise’, PIE √$^*g^werH$-.

? _jūtí-_ f. ‘haste’: √_jū-_ ‘to hurry, haste’, IIr. √*_źuH-_. Further connections are uncertain.

+ _jñātí-_ m. ‘kinsman’: √_jan_^{i}- ‘to beget, give birth’, PIE √*_ǵ_enH_1-. Goth. _knódai_ dat.sg.f. ‘family’ also points to oxytonesis, while Latv. _znuõts_ ‘son-in-law’ reflects retraction in accordance with Hirt’s Law (Illich-Svitych § 30).

+ _tantí-_ f. ‘cord, string’ (6,24,4): √_tan-_ ‘to spread’, PIE √*_ten-_.

+ *tṛptí-* f. 'satisfaction' (8,82,6): √*tṛp-* 'to be pleased', PIE √**terp-*. This word is accented *tṛ́pti-* in 9,113,10 (Anhangslied). In view of the late attestation of the barytone form, I consider oxytonesis to be original (see above, § 2.11). The Germanic evidence (Goth. *þaurfts*, etc.) is ambiguous.

+ *dhītí-* f. 'thought, prayer': √*dhī-* 'to think', PIE √*d^heiH_2-.

+ *dhūrtí-* f. 'damage': √*dhvṛ*^{i}- 'to injure', PIE √*d^huerH_1- (cf. Oettinger 1979: 151).

- *dhautí-* f. 'stream' (2,13,5) is a derivative of the root √*dhāv-* 'to flow, stream'. This root and the synonymous √*dhav-* are almost in complementary distribution, √*dhav-* being always medial (3x), whereas √*dhāv-* is in general active (42x vs. 5x medial in construction with a locative, cf. Narten 1964: 153). The distribution of the vocalism and the diathesis of the roots √*dhāv-* and √*dhav-* suggests that they originally belonged to one paradigm of the so-called "proterodynamic" present (act. *$d^h\acute{\bar{e}}uHti$, med. *$d^h\acute{e}uHe$) and later became thematicized. The lengthened grade of *dhautí-* thus depends on the vocalism of the present, which means that this word cannot be used in our investigation.

+ *paktí-* f. 'cooking, cooked food': √*pac-* 'to cook', PIE √*pek^w-. The oxytonesis reflected in Slavic (cf. SCr. *pȇć*, gen.sg. *pȅći* (c) 'stove') may be secondary.

+ *pītí-* f. 'drinking, draught': √*pā(i)-* 'to drink', PIE √*$peH_3(i)$-.

+ *puṣṭí-* f. 'prosperity': √*puṣ-* 'to prosper, flourish', PIE √**peus-*.

+ *pūrtí-* f. 'gift, reward': √*pṝ-* 'to give', PIE √*$perH_3$-.

- *pṛṣṭí-* f. 'rib' is mostly connected with *pṛṣṭhá-* n. 'back' < *$pr\text{-}stH_2\text{-}o$-. If this etymology is correct, *pṛṣṭí-* goes back to **pṛ-st*H_2- and is not a *-ti-* derivative. On the other hand, the etymology connecting Skt. *párśu-* 'rib' seems attractive too.

+ *bhaktí-* f. 'distribution' (8,27,11): √*bhaj-* 'to divide', PIE √*b^heH_2g-. For the reconstruction of the root see Lubotsky 1981.

+ *bhūtí-* f. 'prosperity, power' (1,161,1): √*bhū-* 'to be, become', PIE √*b^heH_2u-. For the reconstruction of the root see Kortlandt 1986: 90f. and Lubotsky forthc. *b*. In 8,59,7 (*Vālakhilya*) this word is unaccented.

+ *bhṛtí-* f. 'support, maintenance': √*bhṛ-* 'to bear', PIE √*b^her-. Goth. *gabaurþai* dat.sg.f. 'birth' points to barytonesis in this word. The oxytone variants of this word in Germanic (OE *ȝe-byrd*, OHG *gi-burt*, etc.) do not bear testimony to the original accentuation (see § 4.2).

+ *bhṛṣṭí-* f. 'point, edge' (1,56,3) < *$b^hrs\text{-}ti$-. The Germanic (OIc. *burst* f. 'breast', etc.) and Baltic (Lith. *burštìnis*, etc.) cognates do not testify to the original accentuation.

+ *matí-* f. 'thought, devotion': √*man-* 'to think', PIE √**men-*. The oxytonesis is confirmed by Goth. *ga-munds* 'remembrance' and, with some reservations, by Lith. _mintìs_ (4) 'mind, opinion' (Illich-Svitych § 22).

+ _mití-_ f. 'erection, establishment': √_mi-_ 'to build, erect', PIE √*_mei-_.

? _muṣṭí-_ f. 'clenched hand, fist' < IIr.*_muš́-ti-_. This word can hardly be cognate with _mū́ṣ-_ 'mouse' because the latter word contains a laryngeal in view of the acute intonation in Slav. *_mỹšь_ (SCr. _mȉš_, Sln. _míš_, etc.). The short vowel in _muṣṭí-_ is incompatible with the presence of a laryngeal.

+ _rātí-_ f. 'gift, favour': √_rā-_ 'to give, bestow', PIE √*$HreH_1$-.

+ _rītí-_ f. 'stream': √_rī-_ 'to stream, release', PIE √*H_3reiH-.

+ _viṣṭí-_ f. 'work, activity': √_viṣ-_ 'to work, act', PIE √*_ueis-_.

+ _vītí-_ f. 'sacrifice-meal': √_vī-_ 'to have in view, strive for', PIE √*$ueiH_1$-.

+ _vr̥ṣṭí-_ f. 'rain': √_vr̥ṣ-_ 'to rain', PIE √*H_1uers-.

+ _śaktí-_ f. 'strength, ability': √_śak-_ 'to be able', PIE √*_ḱek_$^{(w)}$-. In the first and tenth books this word appears also as _śákti-_ (1,31,18; 10,25,5; 10,88,10; 10,134,6). In view of the late attestation of the barytone forms, I consider the oxytonesis original (cf. above, § 2.11).

+ _śastí-_ f. 'praising, hymn': √_śaṁs-_ 'to praise, declare', PIE √*_ḱens-_.

+ _śrití-_ f. 'sticking' = 'sieve' (?) (9,14,6): √_śri-_ 'to cling to', PIE √*_ḱlei-_. For the interpretation of the hapax _śritī́_ see Oldenberg ad loc.

+ _śruṣṭí-_ f. 'obedience': √_śruṣ-_ 'to be obedient', PIE √*_ḱleu-s-_. Germ. *_hlustiz_ 'ear, hearing' (OIc. _hlust_, OE _hlyst_, etc.) is ambiguous as far as its accentuation is concerned.

+ _sātí-_ f. 'obtaining': √_san_^{i}- 'to gain, obtain', PIE √*$senH_2$-.

+ _siktí-_ f. 'pouring out' (10,100,11): √_sic-_ 'to pour, sprinkle', PIE √*_seik_^{w}-.

+ _stutí-_ f. 'hymn of praise': √_stu-_ 'to praise, celebrate', PIE √*_steu-_.

+ _sphātí-_ f. 'breeding, fattening': √_sphā-_ 'to grow fat', PIE √*$speH_1$-. The Germanic forms pointing to oxytonesis (OS _spōd_, OE _spēd_, OHG _spuot_, etc.) do not testify to the original accentuation (see § 4.2).

? _sraktí-_ f. 'corner' < IIr.*_srak-ti-_. The same root is preserved in _sr̥ká-_ n. 'point, peak' and possibly in _srákva-_, _sŕ̥kvan-_ 'mouth'. Connections outside IIr. are uncertain.

+ _srutí-_ f. 'road, way': √_sru-_ 'to stream, flow', PIE √*_sreu-_.

? _hetí-_ f. 'weapon, projectile': √_hi-_ 'to impel, hurl', IIr. √*$ź^hi$-. Connections outside IIr. are uncertain.

The suffix _-ni-_

§ 2.13. THE EVIDENCE

The following words from Grassmann's reverse index are omitted:

(1) For _maṇí-_ see under the suffix _-i-_;
(2) Non-existent words: _kṣoṇí-_ (= _kṣoṇî_), _sr̥ṇí-_ (= _sr̥ṇî_);
(3) Words of uncertain etymology: _oṇí-_ m./f. 'arm', _pāṇí-_ m. 'hand', _preṇí-_ (1,112,10);
(4) Compound _svagní-_.

Barytona

+ _ghŕ̥̥ṇi-_ m. 'heat of the sun' < _*g_^{wh}_r̥-ni-_.
- _jū́rṇi-_ see s.v. _jūr-ṇí-_.
? _tū́rṇi-_ adj. 'quick, hastening': √_tvar_^{i}- 'to hurry', IIr. √_*tuarH-_. The IE etymology of the root is uncertain.
- _pā́rṣṇi-_ f. 'heel'. The IE cognates of this word point to _*(t)persneH_$_2$. Since the Skt. word is an _i_-stem and a _vr̥ddhi_ formation, it is probably secondary.
+ _pŕ̥̥śni-_ adj. 'spotted' < _*prḱ-ni-_.
? _bhū́rṇi-_ adj. 'excited, wild, angry': √_bhur-_ 'to move rapidly', IIr. √_*b_^{h}_arH-_. The IE form of the root is unclear.
? _yóni-_ m. 'route, abode' < _*(H_$_1$_)iou-ni-_. This word is probably derived from a root √_*yu-_, which is then an enlargement of √_*H_$_1$_ei-_ 'to go'.
+ _váhni-_ adj. 'driving, drawing a car', m. 'draught-animal': √_vah-_ 'to drive, ride', PIE √_*ueǵ_^{h}-.
- _vŕ̥̥ṣṇi-_ see s.v. _vr̥ṣ-ṇí-_.
+ _śréṇi-_ f. 'row, line, flock': √_śri-_ 'to cling to, lean upon', PIE √_*ḱlei-_.
+ _śróṇi-_ f. 'hip, loin, buttock' < _*ḱlou-ni-_. The oxytonesis of Lith. _šlaunìs_ (4) 'hip, loin' may be secondary (Illich-Svitych § 22).

Oxytona

+ _agní-_ m. 'fire, god of fire' < _*(H_$_2$_)ng_^{w}_-ni-_. The connection with _áṅgāra-_ 'coal' suggests an initial laryngeal. For the IE form cf. lastly Kortlandt 1979b: 60f. The Balto-Slavic barytonesis is aberrant and unexplained (cf. Illich-Svitych § 57).
+ _jūrṇí-_ f. 'glow, glowing fire': √_jvar_^{i}-, √_jval_^{i}- 'to burn, glow', PIE √_*ǵuelH-_. The connection with OIr. _gúal_ 'coal' < _*ǵeloulo-_ and Germ. _*kolo-_ < _*ǵulo-_ 'id.' (OHG _chol_, OE _col_, OIc. _kol_) seems plausible, especially in view of the fact that one of the meanings of Skt. _jvālá-_, derived from the same root, is 'coal', cf. MS IV,8,1 _tā́n jvālā́n r̥ṣabháḥ sámalet_ 'the bull licked the coals', where _jvālá-_ cannot have the usual meaning 'flame'. The barytonesis of _jū́rṇi-_ (1,127,10) adj. 'glowing' is most probably secondary (cf. the next word on the author of this hymn).

? *dharṇí-* m. 'supporter' (1,127,7): √*dhṛ-* 'to hold', PIE √*d^{h}er-. The word seems to be an *Augenblicksbildung*, built in parallel to *agní-*. The hapax reads *agnír īśe vásūnāṁ śúcir yó dharṇír eṣām* 'der reine Agni gebeut über die Güter, der ihr Bewahrer ist' (Geldner). The author of this hymn is notorious for the use of rare words for the sake of verbal experiments. Geldner ad loc. called the author of 1,127 "wortreich, aber gedankenarm".

+ *mení-* f. 'vengeance, revenge' (10,27,11): √*mī-* 'to exchange, deceive', PIE √*meiH-.

+ *vṛṣṇí-* m. 'ram' (1,10,2), adj. 'widderartig' (8,6,6): √*vṛṣ-* 'to rain', PIE √*H_1uers-. Beside this word we find three times *vṛ́ṣṇi-* adj.(n.) 'bull-like', which is most probably influenced in its accentuation by *vṛ́ṣan-* 'bull'.

The suffix *-mi-*

§ 2.14. THE EVIDENCE.

From Grassmann's reverse index is omitted:

(1) Non-existent *sūrmí-* (= *sūrmī́*).

Barytona

+ *krúdhmi-* adj. 'irritable' (7,56,8): √*(s)krudh-* 'to become angry', PIE √*(s)kreud^h-.

+ *bhū́mi-* f. 'earth, soil': √*bhū-* 'to be, become', PIE √*b^{h}eH_2u-. For the position of the laryngeal see Kortlandt 1986: 90f.

Oxytona

+ *ūrmí-* m. 'wave' < *ulH-mi-.

+ *jāmí-* adj. 'related as brother and sister': √*jan^i-* 'to beget, give birth', PIE √*ǵenH_1-.

+ *nemí-* f. 'felloe of a wheel': √*nī-* 'to lead', PIE √*neiH- (Hoffmann apud Mayrhofer III 748).

? *raśmí-* f. 'rope, bridle' < IIr.*rać-mi-. The same root is found in *raśmán-* 'bridle' and *raśanā́* f. 'rope, cord' < IIr.*rać-anā̆ (Pers. *rasan*, Oss. *rætæn*, Abaev II 382). The PIE etymology is uncertain.

The suffix *-ri-*

§ 2.15. THE EVIDENCE.

The following words from Grassmann's reverse index are omitted:

(1) For *básri* see under the *r*-stems;

(2) Words of uncertain etymology: *jívri-* adj. 'decrepit, old', *sthū́ri-* adj. 'drawn by one animal'.

Barytona

+ °*áśri-* f. 'corner, edge' < **H_2eḱ-ri-*. This word occurs in the Ṛgveda only in compounds *triráśri-* (1,152,2), from which the accentuation can be gleaned, *cáturaśri-*, and *śatā́śri-*. Since ŚBr., *áśri-* has also been used as a simplex.

+ *úsri-* adj. 'morning-': √*vas-* 'to shine', PIE √**H_2ues-*. The word occurs only in the sentence *hinvánti sū́ram úsrayaḥ* (9,65,1 = 9,67,9) 'die morgendliche (Gesänge) bringen die Sonne in Bewegung' (Geldner 9,67,9), being actually a hapax.

+ *bhū́ri-* adj. 'much, many, abundant': √*bhū-* 'to be, become', PIE √**b^heH_2u-*. For the position of the laryngeal see Kortlandt 1986: 90f.

+ *váṅkri-* f. 'rib': √*vañc-* 'to move crookedly', PIE √**uenk^w-*.

+ *vádhri-* adj. 'unmanly, castrated' < **und^h-ri-*.

Oxytona

+ *jīrí-* m./f. 'flowing water': √*jī̆-* 'to impel, quicken', PIE √*g^{w}eH_3i-*. For the reconstruction cf. s.v. *jī-vá-*.

+ *śubhrí-* adj. 'beautiful, fine': √*śubh-* 'to beautify', PIE √**(s)ḱeub^h-*. We must reconstruct the *s*-mobile because the root structure **Te(R)D^h-* is impossible in PIE.

The suffix *-vi-*

§ **2.16.** THE EVIDENCE.

The following words from Grassmann's reverse index are omitted:

(1) Words of uncertain meaning and/or etymology: *krívi-* m. 'name of a demon (?)', *sthiví-* '?' (10,68,3);

(2) Denominal derivative *dárvi-* f. 'ladle'.

Barytona

+ *ghṛ́ṣvi-* adj. 'lively': √*ghṛṣ-* 'to be excited', PIE √**g^{wh}ers-*.

The suffix *-si-*

§ **2.17.** THE EVIDENCE.

From Grassmann's index are omitted:

(1) *kukṣí-* '?' of uncertain etymology;
(2) Proper noun *ṛkṣí-*.

Oxytona

+ *dhāsí-* m.f. 'residence, milk, food': √*dhā-* 'to place', PIE √*d^heH_1-.

THE *u*-STEMS

The suffix *-u-*

§ **2.18.** Two main groups of derivatives formed with the suffix *-u-* are adjectives/nomina agentis m. and nomina actionis both m. and f. The few neuters (*ā́yu-*, *jā́nu-*, *dā́ru-*, *sā́nu-*, and *páśu-*) are all barytone and, in the sequel, are left out of consideration.

The majority of the adjectives in *-u-* are oxytone, but there are still several barytone adjectives (*ghṛ́ṣu-*, *táku-*, *tápu-*, *mádhu-*, *vásu-*, etc.), which presuppose that Sanskrit had preserved the old distribution. Greek has generalized oxytonesis in this category, but traces of the original distribution are still extant (cf. § 3.4ff.).

At the same time, there is a productive suffix *-ú-*, forming nomina agentis from verbs, especially from secondary stems: desideratives (*cikitsú-*, *ditsú-*, *dipsú-*, etc.), causatives (*dhārayú-*, *bhājayú-*, *bhārayú-*, etc.), and denominatives (*aghāyú-*, *ṛjūyú-*, *caraṇyú-*, etc.). It is conceivable that the productive oxytonesis of this suffix had exerted influence on several nomina agentis in *-yu-*, derived from roots with an extension *-i-* (*cāyú-*, *tāyú-*, *pāyú-*) and from roots in *-i-* (*āyú-*, *jāyú-*).

§ **2.19.** THE EVIDENCE.

The following words from Grassmann's reverse index are omitted:
(1) For the neuters *ā́yu-*, *jā́nu-*, *dā́ru-*, *sā́nu-*, and *páśu-* see § 2.18;
(2) For *ūrú-*, *perú-* see under the suffix *-ru-*;
(3) Non-existent *cetú-* (= *cetúna-*);
(4) Words of non-IE origin: *ánu-* m. 'a non-Aryan man';
(5) Words of uncertain meaning and/or etymology:

áṇu- adj. 'fine',
índu- m. 'drop',
ṛbhú- adj. 'skilful', m. 'craftsman, name of three semi-divine beings',
céru- '?' (8,61,7),
jáḷhu- adj. 'stupid (?)' (8,61,11),
táru- '?' (5,44,5),
títaü- n. 'sieve, cribble' (10,71,2),
dārú- '?' (7,6,1),
dhánu- f. 'sandbank, island',
pūrú- m. 'man, name of a tribe (?)',
yā́śu- '?' (1,126,6),
śáru- f. 'dart, arrow',
síndhu- f. 'river, sea';

(6) Proper nouns: *kaśú-*, *guṅgú-*, *bṛbú-*, *yádu-*, *bhṛ́gu-* pl.m. 'a mythical race', *yákṣu-* 'name of a tribe', *krúmu-* 'name of a tributary of the Indus';
(7) Compounds: *ágru-*, *ádyu-*, *ápsu-*, *ābhú-*, *prabhú-*, *prāśú-*, *vidhú-* (Mayrhofer 1968: 103ff.), *vibhú-*, *śambhú-*, *sudrú-*, *suṣṭú-*, *suṣṭhú-*, *sviṣú-*;
(8) Onomatopoeic *māyú-* m. 'bleating';
(9) Reduplicated nouns: *jigyú-*, *didyú-*, *piprú-*, *babhrú-*, *śiśú-*, *siṣṇú-*;
(10) Denominative *pādú-* m. 'foot (?)' (10,27,24);
(11) Words formed from secondary verbal stems: *bhindú-* m. 'destroyer', *mandú-* adj. 'glad'.

Barytona

+ °*árṣu-* in *ahyárṣu-* (2,38,3) 'piercing snakes': √*ṛṣ-* 'to push, thrust', PIE √**H_2ers-*. The accentuation of °*árṣu-* cannot be due to Wackernagel's Law because *áhi-* is barytone.

+ *ásu-* m. 'life, existence': √*as-* 'to be', PIE √**H_1es-* (Schlerath 1968: 142ff.).

? *íṣu-* m. 'arrow' < **is-u-*. This word is attested only in Indo-Iranian (cf. Av. *išu-*) and Greek (ἰός < **isu̯-os*). As we have no PIE words for weapons and as the attestation of **isu-* is limited to two IE dialects, its foreign origin seems likely (cf. also Skt. *paraśú-*, Gr. πέλεκυς 'axe' with the same attestation and of probable non-IE origin, Gamkrelidze-Ivanov 1984: 716, 739f.). The connection of *íṣu-* with the root √*iṣ*$^{(i)}$- 'to send', PIE √**Heis(H_1)-* (cf. Mayrhofer s.v.) is not compelling. Note that Gr. ἰός points to oxytonesis (cf. § 3.6).

+ *kṛ́tu-* pl. 'time': √*(s)kṛt-* 'to cut', PIE √**(s)kert-*. Only in expressions *bhū́ri kṛ́tvaḥ* (3,18,4) 'many times' and *śáśvat kṛ́tvaḥ* (3,54,1) 'again and again'.

+ *krátu-* m. 'power, will' < **kret-u-*. Gr. κρατύς shows zero grade of the root.

+ *ghṛ́ṣu-* adj. 'lively': √*hṛṣ-* 'to be excited, rejoice', PIE √**g^{wh}ers-*.

- *cákṣu-* m.n. 'eye'. The word is a secondary variant of *cákṣus-* 'id.', the part.pf. of the root √*kāś-*.

+ *chándu-* adj. 'pleasant' (1,55,4): √*chand-* 'to please', PIE √**skend-*.

+ *jásu-* f. 'exhaustion': √*jas-* 'to be exhausted', PIE √**(s)g^{w}es-*.

+ *táku-* adj. 'rushing, quick' (9,97,52): √*tak-* 'to rush away', PIE √**tek^{w}-*. Geldner translates 'Renner'.

+ *tápu-* adj. 'burning, hot' (9,83,2): √*tap-* 'to make warm, heat', PIE √**tep-*. Elsewhere we find an *s*-stem *tápuṣ-*.

- *tsáru-* m. 'crawling animal' (7,50,1): √*tsar-* 'to creep on'. The proposed PIE etymology **H_2d-*√*sel-*, with zero-grade of the preverb **H_2ed-*, seems rather forced.

? *dáṁsu-* adj. 'magical': √*daṁs-* 'to be wondrous', PIE √*_dens-_. Uncertain (see Mayrhofer s.v.).

? *párśu-* f. 'rib, sickle' < IIr. *_parć-u-_. The IE etymology is uncertain. The connection with OCS *prъsi* f.pl. 'breasts' is improbable in view of the acute intonation in Balto-Slavic (Slav. *_pь̑rsь_, Lith. *pìrśys*), which points to the presence of a laryngeal. The Germanic word for 'felly', *_felgíz_ (OHG *felga*, OE *felg(e)*, cf. Franck-van Wijk 728) may be connected, but it is an *i*-stem.

+ *mádhu-* adj. 'sweet', n. 'honey' < *_med_^{h}_-u-_. Gr. μέθυ n. 'wine' shows normal barytonesis of the neuters, and Balto-Slavic has generalized accentual mobility in *u*-stems. Sommer's thesis (1916: 167) that *mádhu-* is only a noun in the R̥gveda and that the adjective is secondary seems unwarranted.

+ *mánu-* m. 'man' < *_mon-u-_. The unexpected short vowel (contrary to Brugmann's Law) may have originated in the oblique cases, as this word probably had hysterodynamic inflection in PIE, cf. Germ. *_mann-_ < *_monu̯-_. The aberrant oxytonesis in loc.sg. *manā́v ádhi* (3x in book 8) is unexplained.

+ *múhu-* adj. 'sudden', only in adv. *múhu, múhuḥ* 'suddenly' < *_mr̥ǵ_^{h}_-u-_. The word is an early prakritism (*-u-* < *_-r̥-_), but its accentuation may be old. The oxytonesis of Gr. βραχύς 'short' cannot testify to the original accentuation, since all Greek adjectives in -υς are oxytone (cf. § 3.4).

+ *rájju-* f. 'rope, cord' < *_Hresg-u-_.

+ *réku-* adj. 'empty': √*ric-* 'to leave, release', PIE √*_leik_^{w}_-_. For the meaning cf. Renou EVP XIII: 97.

+ *vásu-* adj. 'good', m. 'god', n. 'goods, property' < *_H_1ues-u-_. The laryngeal follows from Goth. *iusiza* 'better' < *_H_1eus-_ and lengthenings in Skt. compounds *ákṣitā-vasu-*, *úpā-vasu-*, *purū-vásu-*, etc. Germ. *_wisu_ in personal names *Wisu-rīh*, *Wisi-mār*, etc. confirms the barytonesis.

+ *sváru-* m. 'sacrificial post, stake' < *_suer-u-_.

+ *svédu°* adj. 'sweating': √*svid-* 'to sweat', PIE √*_sueid-_. Only in the compound *svéduhavya-* 'offering in sweat' (1,121,6; 1,173,2). For the meaning cf. AiGr. II,1: 199.

+ *hánu-* f. 'jaw'. The cognates point to *_ǵenu-_ (Gr. γένυς 'id.', Goth. *kinnus* 'cheek', etc.). The Sanskrit form can be explained if we reconstruct *_ǵH_1enu-_ (?), but this reconstruction remains hypothetical.

Oxytona

? *aṁśú-* m. 'thread, filament' < IIr. *_Hanć-u-_. Connections outside IIr. are uncertain.

+ *aṁhú-* adj. 'narrow' (RV *aṁhóḥ* abl.sg. = adv. 'from affliction') < *_H_2enǵ_^{h}_-u-_. Slav. *_ǫ́zъ_ (b) points to barytonesis (Dybo 1981: 105).

? _āyú-_ adj. 'living, mobile', m. 'man' < *_H_2oi-u-_. The adjective is secondary in comparison with the neuter _ā́yu-_ 'age'. The accentuation of the adjective is most probably due to the influence of the suffix _-y-ú-_ (see above, § 2.18).

+ _āśú-_ adj. 'fast, quick' < *_HoHḱ-u-_ (or *_H_3eHḱu-/HeH_3ḱu-_), cf. Gr. ὠκύς 'id.'.

+ _urú-_ adj. 'wide, broad' < *_H_1urH-u-_.

+ _ṛjú-_ adj. 'straight, right': √_ṛj-_ 'to stretch', PIE √*_H_3reǵ-_.

+ _ṛṣú-_ m. 'glow, flame': √_arṣ-_ 'to flow', PIE √*_H_1ers-_.

+ _kārú-_ m. 'poet': √_kṝ-_ 'to praise', PIE √*_keH_2r-_. For the reconstruction of the root see s.v. _kīr-tí-_.

+ _kṛdhú-_ adj. 'shortened, mutilated' < *_(s)krd^h-u-_.

+ _ketú-_ m. 'light, apparition, shape': √_cit-_ 'to know, perceive', PIE √*_(s)keit-_. For the derivation of this word see Renou 1958: 15ff. The oxytonesis is confirmed by Goth. _haidus_ (< PGerm.*_haidús_). The _s_-mobile follows from Lith. _skaidrùs_ 'bright, clear'.

+ _krīḍú-_ adj. quick, impulsive': √_krīḍ-_ 'to move quickly', PIE √*_ḱrisd-_. The Skt. _k-_ is probably due to Weise's Law (depalatalization before *_r_, Weise 1881: 115f.).

+ _gurú-_ adj. 'heavy' < *_g^wrH_2-u-_. The colour of the laryngeal follows from Lat. _gravis_ 'id.', for which see Fischer 1982.

+ _gṛhú-_ m. 'beggar': √_gṛh-_ 'to complain', PIE √*_g^welǵ^h-_.

+ _carú-_ m. 'vessel, pot' < *_k^wer-u-_.

+ _cāyú-_ adj. 'showing respect' (3,24,4): √_cāy-_ 'to perceive, respect', PIE √*_k^weH_1-i-_. The colour of the laryngeal follows from Gr. τηρέω 'to perceive, guard', which is most probably connected with our root (*_k^weH_1-i-_ ~ *_k^weH_1-r-_).

– _jāyú-_ adj. 'victorious': √_ji-_ 'to win, conquer', PIE √*_g^wei-_. The long _ā_ is most probably due to the influence of _cāyú-_, _tāyú-_, _pāyú-_, etc. The accentuation is likely to be secondary too.

+ _tanú-_ adj. 'thin, small' (8,65,12) < *_tnH_2-u-_. For the reconstruction see Beekes 1985a. The oxytonesis seems to be confirmed by Slav. *_tь̂nъkъ_ (c) 'thin' (Dybo 1981: 104ff.).

+ _tāyú-_ m. 'thief': √_(s)tā(y)-_ 'to hide', PIE √*_(s)teH_2(i)-_. The original accentuation of Gr. τηύ° in τηύσιος 'useless' cannot be determined because of the limitation law.

+ _tṛṣú-_ adj. 'greedy, rapid': √_tṛṣ-_ 'to be thirsty', PIE √*_ters-_. For Goth. _þaursus_ vs. OHG _durri_ 'dry' see § 4.5.

– _dāśú°_ in _ádāśu-_ 'godless, impious' and _dāśvàdhara-_ 'one who sacrifices to the gods', is derived from √_dāś-_ 'to offer, honour gods'. The lengthened grade of this root originated from the present _dā́ṣṭi_ of √_daś-_ 'to serve, favour', PIE √*_deḱ-_. Accordingly, _dāśu°_ is derived from a (secondary) verbal stem and cannot be used.

+ *nṛtú-* m. 'dancer': √*nṛt-* 'to dance', PIE √*H_2*nert-*. For the reconstruction cf. Kuiper 1951: 224.

– *náu-* f. 'ship' < **ne*H_2*-u-* is accented as a root noun: nom.sg. *náuḥ*, acc. *nā́vam*, instr. *nāvā́*, etc.

? *panú-* f. 'approval, praise' (1,65,4): √*pan*^{i}- 'to admire, praise', PIE √**(s)penH-* (?) In RV. only as adv. *panvā́* 'with praise'.

+ *paśú-* m. 'cattle, animal' < **peḱ-u-*. Beside the oxytone masc. we find barytone neuter *páśu-*, also found in Germ. **féhu-* 'cattle, money' (Goth. *faihu*, OHG *fihu*, etc.) and Lith. *pẽkus* (2) 'cattle' (Illich-Svitych § 23). The barytonesis of neuters is productive with consonant stems, which means that the oxytone masculine must be at least as old as the neuter.

+ *pāyú-* m. 'protector': √*pā(y)-* 'to protect', PIE √**pe*H_2*(i)-*. The barytonesis of Gr. πῶυ n. 'flock of sheep' is due to the gender of this word.

+ *pitú-* m. 'nourishment, food' < **pit-u-*. Theoretically, this word can be analyzed **pi-tu-* and derived from the root √*pi-* 'to swell, abound', but this derivation is uncertain.

+ *purú-* adj. 'much, many, abundant': √*pṝ-* 'to fill', PIE √**pel*H_1-. This adjective shows three ablaut grades in PIE: zero grade in IIr., *e*-grade in OIr. *il* and Germ. **felu* (Goth., OHG *filu*), *o*-grade in Gr. πολύς.

+ *pṛthú-* adj. 'broad, large': √*prath-* 'to spread', PIE √**plet*H_2-. Lith. *platùs* 'broad' may have productive oxytonesis.

+ *bahú-* adj. 'great, abundant': √*baṁh-* 'to make strong', PIE √**b*^{h}*enǵ*^{h}-.

+ *bāhú-* m. 'arm' < **b*^{h}*e*H_2*ǵ*^{h}*-u-*. Gr. πῆχυς m. 'arm' shows productive accentuation and does not point to the original barytonesis (cf. § 3.5).

? *yahú-* adj. 'young' < IIr. **Hiaź*^{h}*-u-* (Av. *yazu-* 'youthful'). The root of this word is probably an extension of PIE √*H_2*ei-*, contained in *H_2*oiu-* 'Lebenskraft' (Skt. *ā́yu-*, etc.). If this is correct, we can reconstruct *H_2*ieǵ*^{h}*-u-*.

+ *raghú-* adj. 'rapid, hastening', m. 'racer' < *H_1*lng*^{wh}*-u-*. Lith. *leñgvas* 'light' (2 in Daukša) points to the original barytonesis, but has full grade in the root. Slav. **lьgъ* (b) (Dybo 1981: 99, 104) also reflects barytonesis, but the ablaut grade of the root is unclear.

+ *ripú-* adj. 'treacherous, deceitful': √*rip-* 'to smear, cheat', PIE √**leip-*. The oxytonesis of Lith. *lipùs* 'sticky' is productive.

? *vaṅkú-* adj. 'hastening (?)': √*vañc-* 'to move crookedly', PIE √**uenk*^{w}-.

+ *vanú-* adj. 'zealous, eager': √*van*^{i}- 'to demand, strive for', PIE √**uenH-*. The word may contain either zero or full grade of the root.

+ *valgú-* adj. 'agreeable, pleasant': √*valg-* 'to leap, wave', PIE √**uelg-*.

+ *vīḍú-* adj. 'firm, hard': √*vīḍ-* 'to make firm', PIE √**ueisd-*.

+ *śaṅkú-* m. 'peg, spike' (1,164,48) < **ḱonk${}^{(w)}$-u-*. Oxytonesis is also attested in Slav. **sǫkъ* (c) 'branch' (Illich-Svitych § 56).
+ *śayú-* adj. 'lying, resting': √*śī-* 'to lie', PIE √**ḱeiH-*.
? *sādhú-* adj. 'straight, effective': √*sādh-* 'to succeed, prosper', IIr. √**saHd^{h}-*. Further connections are uncertain. The substantivized neuter *sā́dhu-* 'das Rechte' (8,32,10) is barytone, as expected.
+ *svādú-* adj. 'sweet, agreeable': √*svād-* 'to be sweet, taste', PIE √**sueH${}_2$d-*.
+ *harṣú°* in *harṣumánt-* 'excited' (8,16,4): √*harṣ-* 'to be excited, rejoice', PIE √**g^{wh}ers-*. *harṣumánt-* shows the accent shift in accordance with Wackernagel's Law.

The suffix *-tu-*

§ 2.20. The suffix *-tu-* forms nomina actionis m., rarely f. Neuters are always barytone: *dā́tu-*, *dhā́tu-*, and *vā́stu-* (for *jā́tu-* see s.v. *jā-tú°*).

Infinitives and gerunds, containing the suffix *-tu-*, have categorial accentuation: infinitives in *-tum*, *-tos*, *-tave* are barytone; those in *-tavái* have two accents; gerunds in *-tvā́*, *-tvā́ya* and *-tvī́* are oxytone.

Compounds with *dus°* and *su°* in *-tu-* are always barytone (*°tárītu-*, *°dā́tu-*, *°dhár(ī)tu-*, *°yántu-*, *°vártu-*, *°hántu-*, *°hávītu-*; *°mántu-* and *°śrótu-* occur also elsewhere). These compounds mean 'easy/hard to...' and match the compound type *su-kára-* in their accentuation.

§ 2.21. THE EVIDENCE.
The following words from Grassmann's reverse index are omitted:
(1) For neuters see above, § 2.20;
(2) For *pitú-*, *kṛ́tu-* see under the suffix *-u-*;
(3) Words of uncertain meaning and/or etymology: *sā́tu-* m. '?' (4,6,7), *sáktu-* m. 'groats';
(4) Compound *sváitu-*.

Barytona

+ *ótu-* m. 'woof of a web': √*u-* 'to weave', PIE √**H${}_1$eu-*.
- *gántu-* 'Gang' posited by Grassmann for *gántave* in 1,89,9 and 3,54,18 does not exist. In these passages *gántave* is an infinitive, too (Renou 1937: 12f.).
+ *tántu-* m. 'thread, warp of a web': √*tan-* 'to spread', PIE √**ten-*.
+ *bándhu-* m. 'connection, kinship; kinsman': √*ba(n)dh-* 'to bind', PIE √**b^{h}end^{h}-*. For the analysis *bandh-tu-* see Thieme 1938: 103.
+ *mántu-* m. 'advice; adviser, ruler': √*man-* 'to think', PIE √**men-*.
+ *vástu-* f. 'morning': √*vas-* 'to light, illuminate', PIE √**H${}_2$ues-*.

? _śrótu_° in _suśrótu-_ 'hearing with pleasure', _śróturā́ti-_ 'granting hearing' (1,122,6): √_śru-_ 'to hear', PIE √_*ḱleu-_. The compound _śróturā́ti-_, the only unambiguous evidence for the accentuation of °_śrótu-_, is probably an _Augenblicksbildung_, cf. 1,122,6 _śrótu nas śróturā́tis suśrótus sukṣétrā síndhus_.

+ _sánitu-_ m(?). 'acquisition' (1,8,6): √_san_^{i}- 'to acquire', PIE √_*senH_$_2$-.

+ _sétu-_ m. 'fetter, band, bridge': √_sā-_, √_si-_ 'to bind', PIE √_*seH_$_2$_(i)-_. The word may go back either to _*seH_$_2$_i-tu-_, or to _*sH_$_2$_ei-tu-_.

+ _sótu-_ m. 'pressing out (of Soma)': √_su-_ 'to press out', PIE √_*seu-_.

Oxytona

+ _aktú-_ m. 'light, ray': √_añj-_ 'to manifest', √_*Heng-_ (Kuiper 1952: 81ff. and 97).

+ _ṛtú-_ m. 'proper time, order': √_ar-_ 'to fix', PIE √_*H_$_2$_er-_.

+ _gātú-_ m. 'way, course': √_gā-_ 'to go', PIE √_*g_^{w}_eH_$_2$-.

+ _jantú-_ m. 'creature': √_jan_^{i}- 'to beget, give birth', PIE √_*ǵenH_$_1$-. For the loss of the interconsonantal laryngeal see Kuiper 1947: 206f.

+ _jātú_° in _jātū́bharman-_ 'seinem Wesen nach ein Schützer' and _jātū́ṣṭhira-_ 'von Geburt kräftig, urkräftig': √_jan_^{i}- 'to beget, give birth', PIE √_ǵenH_$_1$-. The compounds contain most probably the instr.sg. of _jātú-_. The adverb _jā́tu_ (10,27,11) 'von Geburt', in later texts 'at all, perhaps', is barytone, possibly due to the reinterpretation of _*jātú_ < _jātū́_ (with shortening in pausa) as acc.sg. neuter.

? _yātú-_ m. 'sorcery, sorceror' < IIr. _*iātu-_. Kuiper 1973: 185ff. connects this word with the root √_yā-_$_3$ 'to injure', IIr. _*iā-_. The IE etymology of the root is unknown.

? _hetú-_ m. 'inducement, cause' (10,34,2): √_hi-_ 'to impel, stimulate', IIr. √_*ź_^{h}_i-_. Connections outside IIr. are uncertain.

The suffix *-nu-*

§ **2.22.** The suffix _-nu-_ forms both nomina agentis and nomina actionis. There are no certain examples of barytone derivatives with this suffix: _dā́nu_ 'fluid, drop, dew' is a neuter with expected barytonesis (in 1,54,7 it is fem., for which cf. Renou 1957: 474) or a demon's name, _víṣṇu-_ 'a name of a god' is most probably an original compound. Moreover, the complex suffixes _-snú-_, _-iṣṇú-_, _-tnú-_, _-atnú-_, _-itnú-_ are always oxytone. I therefore assume that the suffix _-nu-_ has categorial oxytonesis and cannot be used for our investigation. For the sake of completeness I have given the list of the _-nu_-derivatives (from Grassmann's reverse index I have omitted _áṇu-_ adj. 'fine, minute' and _veṇú-_ m. 'cane, bamboo', both of uncertain etymology):

kṣepnú- m. 'flying (of a bow-string)' (10,51,6),
gṛdhnú- adj. 'swift, hasty, greedy',
dhṛṣṇú- adj. 'bold, courageous',
dhenú- f. '(milk-)cow',
bhānú- m. 'light, appearance',
reṇú- m. 'dust',
vagnú- m. 'sound, call',
sūnú- m. 'son',
sthāṇú- m. 'stump, post'.

The suffix *-mu-*

§ 2.23. The only probable derivative in *-mu-* is *stāmú-* (7,20,9), of uncertain meaning and etymology.

The suffix *-yu-*

§ 2.24. The primary suffix *-yu-* is comparatively rare and often hard to distinguish from the suffix *-ú-*, which forms nomina agentis from the *-(a)ya-* presents. Therefore, if a *-ya-*present and a word in *-yú-* occur side by side, it is better to consider this word as a *-(y)-ú-* derivative with productive oxytonesis.

§ 2.25. THE EVIDENCE.

The following words from Grassmann's reverse index are omitted:

(1) Probable derivatives from the *-ya-* presents (see above, § 2.24): *gavyú-* (*gavyánt-*), *tanyú-* (*tányati*), *druhyú-* (*drúhyati*), *pīyú-* (*pī́yati*), *śundhyú-* (*śudhyati* and *śundhati*);

(2) For *tāyú-*, *pāyú-*, *māyú-* see under the suffix *-ú-*;

(3) Words of uncertain meaning and/or etymology: *dhā́yu-* '?' (3,30,7), *dhāyú-* '?' (7,36,4);

(4) Proper noun *śimyú-*;

(5) Denominative formations *kiṁyú-*, *tvāyú-*, *dvayú-*, *śaṁyú-*, *svayú-*, *svaryú-*.

Barytona

? *dásyu-* m. 'demon, barbarian' < IIr. _*dasiu-_ (Av. and OP *dahyu* 'country'). Cognates outside IIr. are unknown.

+ *yájyu-* adj. 'worshipping, pious': √*yaj-* 'to sacrifice', PIE √_*i̯eH_$_2$_ǵ-_. For the form of the root see Lubotsky 1981.

+ *sáhyu-* adj. 'strong': √*sah-* 'to conquer, overcome', PIE √_*seǵ_^{h}_-_.

Oxytona

+ *manyú-* m. 'spirit, mind': √*man-* 'to think', PIE √_*men-_. The word can also contain the zero grade of the root (_*mn̥-i̯u-_ > *manyu-*). It seems unwarranted to conclude from the present *mányate* that *manyú-* must be analysed *many-ú-* (AiGr. II,2: 843 with a question mark), because *manyú-* is a nomen actionis, not a nomen agentis (cf. above, § 2.24).

? *bhujyú-* adj. of uncertain meaning, but most probably belonging to one of the roots *bhuj-*. These roots are homonymous, so that the IE form of the word must in any case be $*b^hug$-*iu-*.

+ *vāyú-* m. 'wind, air': √*vā-* 'to blow', PIE $\sqrt{*H_2ueH_1}$-.

The suffix *-ru-*

§ 2.26. The neuters formed with this suffix show expected barytonesis (*áśru-*, *śmáśru-*). One word (*peru-*) is attested with both accentuations.

§ 2.27. THE EVIDENCE.
The following words from Grassmann's reverse index are omitted:

(1) Neuters *áśru-* and *śmáśru-*;

(2) Words of uncertain etymology: *jatrú-* m. 'collar-bone' (8,1,12), *śátru-* m. 'enemy, rival';

(3) Name of a tribe *śígru-*.

Barytona

- *cā́ru-* adj. 'agreeable, dear'. The etymology of this word is unclear. The often proposed connection with Lat. *cārus* 'dear', Goth. *hōrs* 'adulterer', etc. < $*keH_2$-*ru-* seems improbable, because it cannot account for the palatal consonant in Sanskrit.

? *péru-* see *pe-rú-*.

Oxytona

+ *ūrú-* m. 'thigh' < $*uH_2$-*ru-*, if connected with Lat. *vārus*.

? *perú-* adj. 'swelling (?)': √*pī-* 'to swell, abound', √*peiH-*. The meaning is uncertain. In 10,36,8 and 9,74,4 this word shows barytonesis, which can be secondary.

+ *bhīrú-* adj. 'timid, faint-hearted': √*bhī-* 'to fear', PIE $\sqrt{*b^heiH}$-.

The suffix *-su-*

§ 2.28. The derivatives with this suffix are all barytone, but in view of the scantiness of the material, this does not point to categorial accentuation.

§ 2.29. THE EVIDENCE.

The following words from Grassmann's reverse index are omitted:

(1) Words of uncertain meaning and etymology: *ákṣu-* '?' (1,180,5);
(2) Name of a tribe *tṛ́tsu-*;
(3) *u-* derivatives from desiderative stems: *ditsú-*, *dipsú-*, *śikṣú-*.

Barytona

? *dákṣu-* adj. 'burning' (1,195,4): √*dah-* 'to burn', PIE √*d^heg^{wh}-. The Padapāṭha reads *dhákṣu-*, which must be the older form, cf. the next word. The word *d*$^{(h)}$*ákṣu-* is most probably secondarily formed after the part.aor. *d*$^{(h)}$*ákṣat-* (Leumann 1968: 472).

? *dhákṣu-* adj. 'burning' (10,115,4) = *dákṣu-*.

+ *ráṁsu°* adj. 'pleasing': √*ram-* 'to calm, enjoy', PIE √**Hrem-*. The word occurs in RV only in the compound *ráṁsujihva-* 'having a pleasing tongue' (4,1,8).

Evaluation of the *i-* and *u*-stems

The Indo-Iranian laryngeal accent shift

§ **2.30.** Before we proceed to the description of the categories circumscribed in § 1.17, we must discuss a general tendency of the *i-* and *u*-stems which, as far as I know, has not been noticed before. Reconsidering the evidence, we see that the *i-* and *u*-stems derived from *seṭ*-roots are predominantly oxytone:

Roots with a final laryngeal:

Barytona: (+) *dhū́-ti-*;
sáni-tu-;
(?) *hír-i°*; *bhū́r-ṇi-*;
pé-ru-;
Oxytona: (+) *kav-í-*, *gir-í-*, *tuv-í°*, *dhruv-í-*, *maṇ-í-*, *ray-í-*, *san-í-*;
ā-tí-, *iṣ-ṭí-*$_2$, *ū-tí-*, *kṣā-tí-*, *gūr-tí-*, *jñā-tí-*, *dhī-tí-*,
dhūr-tí-, *pūr-tí-*, *rā-tí-*, *rī-tí-*, *vī-tí-*, *sā-tí-*, *sphā-tí-*;
jūr-ṇí-, *me-ní-*; *ūr-mí-*, *jā-mí-*, *ne-mí-*; *dhā-sí-*;
ur-ú-, *gur-ú-*, *tan-ú-*, *pur-ú-*, *pṛth-ú-*, *van-ú-*, *śay-ú-*; *gā-tú-*, *jan-tú-*, *jā-tú°*, *vā-yú-*; *ū-rú-*, *bhī-rú-*;
(?) *granth-í-*, *drav-í-*; *jū-tí-*;
pan-ú; *yā-tú-*; *pe-rú-*.

The exceptions to the oxytonesis can be explained as follows:

(1) *dhū́ti-* 'shaker, agitator' probably shows the accentuation of the vocative. This word is used in RV only as voc.pl. (7x) and nom.pl.(4x),

while nom.pl. occurs in late hymns only: 1,64,5 (Aufrecht *dhūtáyaḥ*!); 1,87,3; 1,168,2, and 5,61,4 (Anhang). The frequent use of the word in the vocative also explains the personification of the expected meaning 'agitation, shaking', resulting in the masculine gender and active meaning.

(2) The accentuation of *sánitu-* can be explained if we assume that the vocalization of the laryngeals preceded the accent shift. We shall return to the chronology below.

This pervasive oxytonesis of the derivatives from *seṭ*-roots can hardly be accidental, so that we must assume an accent shift from the root to the suffix. Before we discuss the chronology and conditions of this shift, which I shall subsequently call "the laryngeal accent shift", we must examine derivatives from roots with a medial laryngeal. If the laryngeal accent shift was of phonetic origin and not due to some morphological process, it will have affected these roots too.

Roots with a medial laryngeal:

Barytona: (+) *íṣ-ṭi-*; *bhū́-mi-*; *bhū́-ri-*;
sé-tu-; *yáj-yu-*;
(?) *tū́rv-i-*; *tū́r-ṇi-*;
Oxytona: (+) *āp-í-*; *kīr-tí-*, *pī-tí-*, *bhak-tí-*, *bhū-tí-*; *jī-rí-*;
āś-ú-, *kār-ú-*, *cāy-ú-*, *tāy-ú-*, *pāy-ú-*, *bāh-ú-*, *svād-ú-*;
(?) *sādh-ú-*.

The frequent oxytonesis in this category suggests that the laryngeal accent shift operated here too. The exceptions can be explained if we take the relative chronology into account (see below).

§ **2.31.** When did the laryngeal accent shift take place? It seems quite certain that the shift is not of Indo-European date. In spite of the fact that the evidence from other IE languages is rather limited (see above, § 2.8), we do find several *i*- and *u*-stems which are derived from roots with a final or medial laryngeal but point to barytonesis.

In Greek we find only traces of the original accentual distribution of the *i*- and *u*-stems. Relevant for our purpose are θοῦρος, λεῖος, and οὖλος, as they point to *d^h*ór*H_3*-u-*, **lé*H_1*i-u-*, *H_3*él*H_1*-u-*, resp. (cf. § 3.6).

From Germanic we can mention OE *mǣð* < **mé*H_1*-ti-*, Goth. *seiþus* < **sé*H_1*i-tu-*, Goth. *nauþs* < **nóHu-ti-*.

In Balto-Slavic it is hard to find unambiguous examples of barytone *i*- and *u*-stems because of Hirt's Law. Nevertheless, two words seem to be significant: Lith. *pilìs* (dial. 2) 'castle' < **(t)pḷ́H-i-* (Illich-Svitych § 22) and *ántis* (1) 'duck' < *H_2*en*H_2*-ti-* (Illich-Svitych § 27). The barytonesis of these words is especially important in view of generalized mobility in the Balto-Slavic *i*- and *u*-stems.

§ 2.32. It follows that the laryngeal accent shift is of post-Indo-European date.[9] The relative chronology of the shift can be further specified if we take the exceptions into account.[10]

As *íṣṭi-* and *yájyu-* are barytone, they probably were not subject to the laryngeal shift, which was therefore posterior to the early Indo-Iranian loss of laryngeals before mediae (Lubotsky 1981) so that, at the time of the shift, these words did not contain medial laryngeals any more. This implies that not only *íṣṭi-* and *yájyu-*, but also *bhaktí-* show the original, pre-shift accentuation. These words will be treated in the relevant sections below.

On the other hand, the laryngeal shift was anterior to the so-called laryngeal metathesis (*_CHRC_ > *_CRHC_) in Indo-Iranian, as can be inferred from the barytonesis of *bhū́mi-* and *bhū́ri-*. We have the following material: barytona *bhū́mi-*, *bhū́ri-* vs. oxytona *kīrtí-*, *jīrí-*, *pītí-*, *bhūtí-*. As the laryngeal metathesis was posterior to the laryngeal accent shift, these nouns must reflect the original accentuation. They will also be treated below, in accordance with their root structure.

The barytonesis of *sétu-* does not allow unambiguous conclusions on the chronology. If the original form of this word was *_sH_$_2$_éi-tu-_, the shift probably did not operate, as the laryngeal preceded the vowel. If the original form was *_séH_$_2$_i-tu-_, we have two possible explanations. Either the intervocalic laryngeal was lost before the shift, or the accent shifted to the following *-i-* and thus remained on the same syllable when the laryngeal was lost. No conclusion seems possible, but whatever the explanation of the barytonesis may be, the accentuation of *sétu-* is not affected by the laryngeal shift and is therefore original.

Finally, the barytonesis of *sánitu-* must be discussed. It is a hapax, and its accentuation may be secondary. If the barytonesis is old, we may assume that the vocalization of the interconsonantal laryngeal in this word was anterior to the accent shift. As Beekes has demonstrated (1981: 283f.), interconsonantal laryngeals were vocalized in Indo-Iranian before two consonants. This means that in the oblique cases of IIr. **sanH-tu-* the laryngeal was vocalized, so that this word was not subject to the shift.[11] We arrive at the following relative chronology of the laryngeal accent shift:

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[9] The post-IE date of the laryngeal accent shift may explain several exceptions to Wackernagel's Law. It is well-known that there are many oxytona in *-í-* and *-ú-* which, contrary to the Law, keep the accent when used as the first member of a compound, cf. *vāyú-keśa-*, *vāyú-gopa-*, *bāhú-cyuta-*, *bāhú-jūta-*, *bāhú-ojas-*, etc. (for the material see Rysiewicz 1948: 17ff.). To be sure, these exceptions can be explained if we assume that the accent of the simplex was secondarily introduced into the compound, but there is another consideration. Wackernagel's Law must be of PIE date, as there are reflexes of it in Greek and Germanic (Wackernagel 1969-79: 1138ff.). As the laryngeal shift operated in Indo-Iranian only, several words were still barytone at the time of Wackernagel's Law and were not affected by it. This implies that e.g. *bāhú-* and *vāyú-* may have been barytone in PIE.

[10] The oxytonesis of words like *iṣ-ṭí-*$_2$ (< *_HisH_$_1$_-ti-_) and *jan-tú-* (< *_ǵenH_$_1$_-tu-_) suggests that the interconsonantal laryngeals were still extant at the time of the shift, but this observation does not provide any chronological information because the loss of interconsonantal laryngeals may be dated as late as to the Sanskrit period.

1. Indo-Iranian vocalization of interconsonantal laryngeals (see fn.11);
2. Loss of laryngeals before mediae;
3. Laryngeal accent shift;
4. Laryngeal metathesis.

§ **2.33.** From the foregoing discussion it becomes clear that the laryngeal shift operated when both of the following conditions were fulfilled:

1. The root vowel is *followed* by a laryngeal (the laryngeal is not necessarily contiguous to the syllabic nucleus);
2. The word is an *i*- or *u*-stem, as the laryngeal accent shift does not affect *a*-stems, cf. *kā́-ma*, *pū́r-va-*, *bhā́-ma-*, *śū́-na-*, etc.

The second condition may appear phonetically incomprehensible, but there are at least two indications that in Indo-Iranian *i* and *u* were different from *a*, as far as their prosodic influence is concerned.

- First, the difference can be illustrated by Wackernagel's Law, according to which words in *-í-*, *-ú-*, *-ŕ̥-* and *ń̥-* lost their accent to the following syllable in composition and secondary derivation, while words in *-á-* retained their accent.
- Secondly, according to the RV-Prātiśākhya, the result of the so-called *praśliṣṭa*-sandhi is different for *i* and *a*. The sandhi of *í* + *ī̆* yields *ī̀* with a *svarita*, while *á* + *ā̆* results in *ā́* with an *udātta*. This practice is reflected in RV too, cf. 1,22,20 *divī̀va*, 1,80,3 *abhī̀hi*, or a compound *abhī̀ti-*[12] vs.

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[11] Incidentally, it can be demonstrated that the Indo-Iranian vocalization of interconsonantal laryngeals was anterior to the accent shift. From Skt. *duhitár-* we can see that the vocalization was anterior to the palatalization, which in its turn was anterior to the merger of **e* and **o* into IIr. *a*. The latter development is probably connected with the merger of the three laryngeals into a glottal stop (cf. also Lubotsky forthc. *c*), which must be anterior to the loss of laryngeals before mediae (Lubotsky 1981) and, consequently, to the accent shift (see above). To sum matters up, we get the following chain of events: 1. IIr. vocalization of interconsonantal laryngeals; 2. Palatalization; 3. Merger of **e*, *o*, *a* into IIr. **a*; 4. Merger of *H_1, H_2, H_3 into *ʔ; 5. Loss of ʔ before mediae; 6. Laryngeal accent shift.

[12] The accentuation of this sandhi shows some fluctuations, cf. Hoffmann 1967: 149 n. 91, Oldenberg ad 1,80,3 and 10,14,9. The sandhi of *ú* + *ū̆* does not occur in RV, but the Taittirīya-Prātiśākhya prescribes *ū̀* here too, cf. TS. *sū̀dgātā-*.

ihā́sti̍, etc. In other words, the combination of *udātta* + *svarita* on ī resulted in a *svarita*, but the same combination on *ā* resulted in an *udātta*. This difference can be explained if we assume that the *udātta* of *i* was lower than that of *a*. A similar explanation is necessary in the case of Wackernagel's Law where the accented *í*, *ú*, etc. do not keep the accent.

There is a major phonological difficulty with the laryngeal accent shift, however. Vowels followed by laryngeals attract the accent in most cases (cf. de Saussure's Law for Lithuanian, Hirt's Law for Balto-Slavic) or block a progressive shift (Dybo's Law for Slavic). Therefore, a progressive accent shift from a 'laryngealized' vowel is incomprehensible, especially when the accent shifts to *i* or *u*, which should repel the accent rather than attract it. I cannot resolve this difficulty, but the evidence has priority, and we may find an explanation later.

§ **2.34.** From the preceding section it follows that all *i*- and *u*-stems derived from roots with a final or medial laryngeal are oxytone in Sanskrit, due to the Indo-Iranian laryngeal accent shift.[13] This means that all words which were subject to the shift are ambiguous as far as their accentuation is concerned and cannot bear testimony to the Indo-European situation. They are therefore omitted in the discussion of the categories based on the root structure, to which we now proceed.

CATEGORY 1. Roots without stops.

Barytona: (+) *áv-i-*; *yá-ti-*, *rán-ti-*; *ús-ri-*;
°*árṣ-u-*, *ás-u-*, *mány-u-*, *vás-u-*, *svár-u-*; *ó-tu-*, *mán-tu-*, *vás-tu-*, *sáni-tu-*, *sé-tu-*, *só-tu-*; *ráṁ-su*°;
(?) *yó-ni-*;
íṣ-u-;
Oxytona· (+) *as-í-*; *i-tí-*, *iṣ-ṭí-₁*, *ṛṣ-ṭí-*, *ma-tí-*, *mi-tí-*, *viṣ-ṭí-*, *vṛṣ-ṭí-*, *sru-tí-*;
ṛṣ-ú-, *ṛ-tú-*, *man-yú-*;
(?) *muṣ-ṭí-*; *vṛṣ-ṇí*;
āy-ú-.

The distribution is clear: words with zero-grade in the root are oxytone (12:2), those with full grade in the root are barytone (14:0). There are but 2 exceptions: (1) *ús-ri-* can be a Sanskrit denominative formation from the *r*-stem *uṣár-* 'dawn', cf. also *usrá-*; (2) for *yá-ti-* see s.v.

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[13] Note that in case of doubt about the correct reconstruction, we are now better able to choose between the alternatives. E.g., the barytonesis of *hár-i-* indicates that the root probably has no final laryngeal, while the oxytonesis of *maṇí-* is an argument in favour of a final laryngeal.

Note that *manyú-* may contain the zero-grade of the root and, if so, shows regular accentuation.

This distribution coincides with the often postulated relation between ablaut and accentuation which identifies accent with the full grade of the root. Most consonant stems were mobile in PIE, and the zero-grade of the root existed side by side with full grade in almost every paradigm. If the root was in the zero-grade, it was unaccented; if the root was in the full grade, it was accented. When one of the ablaut grades was generalized throughout the paradigm, its accentuation was generalized as well. Accordingly, words with zero-grade in the root became oxytone, and words with full grade in the root became barytone.

Category 2. One-stop roots without an initial laryngeal.

A. Derivatives with a contiguous stop.

Barytona: (+) *bhŕ̥m-i-, hár-i-, hárṣ-i-, hŕ̥ṣ-i*°; *íṣ-ṭi-, gá-ti-, jí-ti-, júṣ-ṭi-, dŕ̥-ti-, vŕ̥ddhi- (vŕ̥dh-ti-); ghŕ̥-ṇi-, váh-ni-; bhū́-mi-; bhū́-ri-, vádh-ri-; ghŕ̥ṣ-vi-;*
ghŕ̥ṣ-u-, jás-u-, mádh-u-, múh-u-, hán-u-; tán-tu-; yáj-yu-, sáh-yu-;
(?) *dáṃs-u-; dás-yu-;*
Oxytona: (+) *kr̥ṣ-í-; kīr-tí-, kr̥ṣ-ṭí-, kṣi-tí-, tan-tí-, pī-tí-, puṣ-ṭí-, bhū-tí-, bhr̥-tí-, bhr̥ṣ-ṭí-, śas-tí-, sik-tí-, stu-tí-; jī-rí-; car-ú-, tr̥ṣ-ú-, rip-ú-, harṣ-ú*°;
(?) *ghās-í-, rāś-í-; srak-tí-, he-tí-; dhar-ṇí-; raś-mí-; jāy-ú-; he-tú-.*

This is an important point in our investigation. In contradistinction to the previous category, the ablaut grade of the root does not play any role here: we find accented zero-grades (*bhŕ̥mi-, hŕ̥ṣi-, íṣṭi-, gáti-*, etc.) and unaccented full grades (*tantí-, carú-, harṣú*°). This difference between the two categories is essential and has far-reaching consequences for the reconstruction of the PIE accent.

The conditioning factor for the accentuation seems to be the type of stop. Words with mediae (D) or mediae aspiratae (D^h) in the root are mostly barytone (23:5), whereas words with tenues (T) in the root are oxytone (13:1).[14]

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[14] I have also included here words which were not subject to the laryngeal accent shift (*bhū́mi-, bhū́ri-, kīrtí-, pītí-; íṣṭi-, yájyu-*, etc.). Formally, these words do not belong in this category, since the stop and the syllabic nucleus are separated by a laryngeal, but the accentual distribution of these words coincides to a great extent with that of derivatives with contiguous stops, which means that laryngeals do not block the structural contiguity of stops.

As far as T is concerned, there is but one exception, *tántu-*.[15] The exceptions in the case of D and D^{h} are more numerous, but they can all be explained:

(1) *bhūtí-* is accented in one passage only (1,161,1), and its oxytonesis is quite understandable because almost all *ti*-derivatives with long *ī* or *ū* in the root are oxytone as a result of the laryngeal accent shift, cf. *dhītí-*, *jūtí-*, *ūtí-*, etc.;
(2) *jīrí-* can be explained along the same lines;
(3) The evidence of *harṣú°* (occurring only in a hapax *harṣumánt-*) and *bhṛṣṭí-* (a hapax in the first book) is not strong;
(4) The only serious exception is *bhṛtí-*. Note, however, that Goth. *gabaurþai* points to barytonesis in this word (the oxytonesis of OE *ȝebyrd*, OHG *giburt*, etc. is secondary, cf. § 4.2), which may be an indication that the accentuation of the Sanskrit word is not original.

The initial *s-* (*stutí-*) and the cluster of two tenues (*kṣití-*) seem to have no bearing on the accentuation.

B. Derivatives with a non-contiguous stop.

Barytona: (+) *tvíṣ-i-*; *dhrú-ti-*, *śrú-ti-*; *śré-ṇi-*, *śró-ṇi-*; *váṅk-ri-*;
rék-u-, *svéd-u°*;
(?) *plúṣ-i-*, *rándh-i-*;
śró-tu°;
Oxytona: (+) *śri-tí-*, *śruṣ-ṭí-*;
valg-ú-, *vīḍ-ú-*;
(?) *vaṅk-ú-*.

The accentual distribution in this category is not clear, but may depend on the ablaut grade of the root. Among barytona only *tvíṣi-*, *dhrúti-*, and *śrúti-* have zero-grade in the root. Of these, *dhrúti-* is metathesized from **dhurti-*, where the stop was possibly contiguous to the syllabic nucleus. Its accentuation is then regular in accordance with Category 2A. Nevertheless, the barytonesis of *tvíṣ-i-* and *śrú-ti-* remains unexplained.

Among the oxytona only *valgú-* has full grade in the root.

CATEGORY 3. One-stop roots with an initial laryngeal.

A. Derivatives with a contiguous stop.

Barytona: (+) *áh-i-*, *ṛ́j-i°*; *°áś-ri-*;
(?) *nā́bh-i-*, *ráj-i-*, *rábh-i-*;

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[15] One may think of the influence of *tántra-*, as "le mot [*tántu-*] a abandonné au profit de *tántra-* (connu depuis RV X^{1}) la majeure partie des acceptions figurées que comporte le groupe en *tan-* et qu'ébauchait avec *tántu-* RV I.IX-X" (Renou 1937: 9).

Oxytona: (+) *nr̥t-í-*; *ag-ní-*;
r̥j-ú-, *nr̥t-ú-*, *ragh-ú-*; *ak-tú-*;
(?) *āj-í-*, *raj-í-*; *yah-ú-*.

In this category too, the ablaut grade of the root seems to be the conditioning factor. Words with full grade in the root are barytone, those with zero-grade are oxytone. The only exception *ŕ̥ji°* is attested in the hapax *ŕ̥jīti-*.

B. Derivatives with a non-contiguous stop.

Barytona: (+) *ráṁh-i-*;
rájj-u-;
Oxytona: (+) *añj-í-*, *arc-í-*;
aṁh-ú-.
(?) *aṁś-ú-*.

The material is too scant to allow coming to any conclusion, but the contiguity of the laryngeal seems to play an important role. If the laryngeal is contiguous to the syllabic nucleus, the word is oxytone; otherwise, the word is barytone.

CATEGORY 4. Two-stop roots.

A. Derivatives with two contiguous stops.

Barytona: (+) *pát-i-*, *śúc-i-*; *kŕ̥t-ti-*, *cít-ti-*, *śúp-ti-*; *pŕ̥ś-ni-*;
kŕ̥t-u-, *ták-u-*, *táp-u-*;
(?) *dúdh-i-*;
dák-ṣu-, *dhák-ṣu-*;
Oxytona: (+) *kr̥t-í-*, *dabh-í°*, *bhuj-í-*; *tr̥p-tí-*, *pak-tí-*, *bhak-tí-*, *śak-tí-*,
śubh-rí-;
kr̥dh-ú-, *gr̥h-ú-*, *paś-ú-*, *pit-ú-*, *bah-ú-*;
(?) *bhuj-yú-*.

The first observation we can make about this heterogeneous group is that the ablaut grade of the root has no bearing upon the accentuation: we find accented zero-grades (*śúc-i-*, *kŕ̥t-ti-*, *cít-ti-*, etc.) and unaccented full grades (*pak-tí-*, *bhak-tí-*, *śak-tí-*, etc.). In order to investigate whether the accentuation depends on the type of stops, we must rearrange the material:

T...T Barytona: (+) *pát-i-*, *pŕ̥ś-ni-*;
ták-u-, *táp-u-*;
Oxytona: (+) *tr̥p-tí-*, *pak-tí-*, *śak-tí-*;
paś-ú-, *pit-ú-*;

The distribution is unclear. Words of Category 4A often contain secondary full grades (e.g. *pak-tí-*, *śak-tí-*), which may have blurred the distribution. Note that if *pitú-* must be analyzed *pi-tú-*, it belongs to Category 2A and shows the predicted oxytonesis for T.

(s)T...T Barytona: (+) *śúc-i-*; *kṛ́t-ti-*, *cít-ti-*, *śúp-ti-*;
kṛ́t-u-;
Oxytona: (+) *kṛt-í-*;

Barytonesis is probable in this group (5:1).

(s)T...D^h Oxytona: (+) *śubh-rí-*;
kṛdh-ú-;
D^h...D Oxytona: (+) *bhuj-í-*; *bhak-tí-*;
(?) *bhuj-yú-*.
D^h...D^h Barytona: (?) *dúdh-i-*;
dák-ṣu-/dhák-ṣu-;
Oxytona: (+) *dabhí°*;
gṛh-ú-, *bah-ú-*;

The material of the latter three groups is actually too scanty to permit any conclusion. Nevertheless, if we remember that the accentuation of words with contiguous D and D^h (Category 2A) is identical, we can put D^h...D and D^h...D^h together. In this united group D^h...D$^{(h)}$, then, oxytonesis is probable (5:0). For the laryngeal in *bhaktí-* see fn. 14.

B. Derivatives with one contiguous stop.

Barytona: (+) *krúdh-mi-*;
krát-u-, *chánd-u-*, *bándhu-* (= *bándh-tu-*);
(?) *párś-u-*;
Oxytona: (+) *śit-í°* < **śvit-í°*;
ket-ú-, *śaṅk-ú-*;
(?) *drāp-í-*;

The material is too inconsiderable to establish a distribution. For T...T one may assume oxytonesis (3:1) with *krátu-* as an exception (this word may contain the *s*-mobile). Note that in this category D and D^h behave in a similar way too: both (s)T...D^h and sT...D are barytone.

C. Derivatives with two non-contiguous stops.

Oxytona: (+) *krīḍ-í-*;
krīḍ-ú-.

Here too, the material is insufficient to establish a distribution.

Summary

§ **2.35.** Let us review our results so far. We have seen that *i*- and *u*-stems derived from roots with final or medial laryngeals are oxytone, due to the Indo-Iranian laryngeal accent shift. These words cannot therefore testify to the PIE accentuation. The remaining words were arranged according to their root structure, which led to a striking result. In several categories the determining factor for the accentuation is the ablaut grade of the root (full grade → barytonesis; zero-grade → oxytonesis). This distribution is found in Category 1 (roots without stops), Category 2B (roots with one non-contiguous stop without an initial laryngeal), and Category 3A (roots with one contiguous stop and an initial laryngeal).

In other categories, however, the ablaut does not seem to have any bearing on accentuation. The distribution there depends rather on the type of the stop. In Category 2A (roots with one contiguous stop and without an initial laryngeal), words with tenues (T) in the root are oxytone, whereas words with mediae (D) or mediae aspiratae (D^h) in the root are barytone. In Category 4A (roots with two contiguous stops) roots (s)T...T yield barytonesis, while roots $D^{(h)}$...$D^{(h)}$ yield oxytonesis (note that roots with D and D^h show the same distribution). The material in the remaining categories is insufficient to establish a distribution.

THE *a*-STEMS

§ **2.36.** The major problem with the Sanskrit *a*-stems (and, more generally, with the PIE *o*-stems) is their productivity. The source of the PIE *o*-stems were the consonant stems and root-nouns (Beekes 1985: 184ff.), so that all *o*-stems are ultimately of denominal origin. The thematicization of consonant stems remained productive in subsequent periods and in the separate languages. For our investigation it is essential, however, to determine the age of every *o*-stem: if it is a PIE formation, its accentuation may be old; if it is an Indo-Iranian or Sanskrit thematicization of an existent consonant stem or root-noun, its accentuation cannot testify to the original place of the accent.

Unfortunately, we have hardly any objective criteria to determine when the thematicization of a particular *o*-stem took place. To be sure, if the late origin of a word can somehow be demonstrated (e.g. if the word is derived from a secondary verbal stem), the word is omitted from the evidence. But if this is not the case, the choice is often difficult. In the following I have tried to combine two considerations, one from the Indo-Iranian and one from the Indo-European angle:

(1) If in Indo-Iranian there is a consonant stem or a root-noun which is likely to be the source of a particular *a*-stem, this *a*-stem must be

regarded as a recent thematicization and is left out of consideration (for some rare exceptions see § 2.50); otherwise, this *a*-stem is considered old and included in the evidence;

(2) If there is a cognate *o*-stem in other IE languages, we must choose between two alternatives: either the cognates are also recent thematicizations, or the word is of PIE date.

Both criteria are not strict, and for every single word we must consider the respective merits of the alternatives. Especially for the suffix *-a-* the choice is often difficult and sometimes rather a matter of taste.

§ **2.37**. The *a*-stem adjectives often show a tendency to oxytonesis. Oxytone are verbal adjectives in *-ta-* and *-na-*, adjectives in *-ma-*, most adjectives in *-ra-* and *-a-*. But we also find barytone adjectives in *-na-*, *-va-*, and even in *-a-* and *-ra-*, which demonstrates that this tendency cannot always explain the accentual distribution.

Neuters do not have any categorial accentuation with the *a*-stems.

The suffix *-a-*

§ **2.38**. The suffix *-a-* is the most frequent suffix in the Ṛgveda, forming both primary and secondary derivatives. In the following we shall first discuss deverbatives (§§ 2.39ff.), then isolated *a*-derivatives ("ohne verbale Grundlage") (§ 2.49), and finally denominal formations (§ 2.50).

Deverbatives

§ **2.39**. The *communis opinio* on the accentuation of the deverbative IE suffix **-o-* in general, and of the Sanskrit suffix *-a-* in particular, can be formulated as follows: nomina actionis formed with this suffix are barytone, nomina agentis are oxytone (AiGr. II,2: 98f. with literature, Burrow 1973: 124). This so-called "τόμος/τομός distribution" (after the Greek words τόμος 'slice' vs. τομός 'cutting, sharp') is mostly demonstrated on the basis of minimal pairs from the Ṛgveda:

éṣa- 'haste' – *eṣá-* adj. 'hastening'
bhóga- 'enjoyment' – *bhojá-* adj. 'bountiful'
vára- 'choice' – *vará-* 'suitor'
śā́ka- 'help, power' – *śākā́-* adj. 'helpful'
śā́sa- 'order' – *śāsá-* 'ruler, master'.

Although these pairs seem to provide conclusive evidence for the distribution, the situation is more complex. For instance, we also find pairs of nomina actionis and nomina agentis where both members are oxytone, cf.:

ghaná- 'murder, death' - *ghaná-* 'murdering weapon'
vadhá- '(violent) death' - *vadhá-* 'murdering weapon'
vṛdhá- 'strength' - *vṛdhá-* 'one who strengthens'
śāká- 'power' (5,12,2) - *śāká-* adj. 'helpful'
svāná- 'turmoil, noise' - *svāná-* adj. 'rattling'.

This example illustrates that the proposed accentological distribution must be revised, which requires a new investigation of the entire material. An attempt at such an investigation is presented below.

§ **2.40.** First of all, we must discuss the terms "nomen agentis" and "nomen actionis", which play an essential role in every description of the accentuation of the suffix *-a-*. These terms are often used in the Indo-Europeanist literature, but without any definition. That a clear definition is not superfluous, however, can be seen from the fact that there is a considerable degree of fluctuation in applying these terms, cf. *kṣáya-* 'dwelling-place, abode', which is listed by Lindner 1878: 30 under nomina actionis, and by AiGr. II,2: 100 under nomina agentis.

It should be borne in mind that the terms "nomen agentis" and "nomen actionis" can be defined in a meaningful way only in relation to the verb. The isolated *a*-derivatives, to which the τόμος/τομός distribution does not apply, are discussed in § 2.49.

§ **2.41.** *Nomen agentis.* I propose to define nomina agentis as deverbal nouns, which can be described as 'one who + 3sg. of the verb'. The verb can appear in any tense, cf. *murderer* 'one who has murdered', *driver* 'one who drives', *buyer* 'one who is going to buy', etc. The verb can sometimes appear also in the passive, cf. Skt. *spārhá-* adj. 'desirable' derived from the root *spṛh-* 'to be eager, desire eagerly', etc. Nomina agentis are often adjectives, comparable in function to participles.

Note that in our definition the term "nomen agentis" applies to persons and adjectives only. In my opinion, this restriction is necessary in the situation found in Sanskrit where the suffix *-a-* can have the meaning of both nom.ag. and nom.act., and we have no prior formal means of distinguishing between the two. As a matter of fact, nouns denoting things and natural phenomena, the so-called "nomina concreta", are ambiguous. We can only determine their original meaning if the suffix serves for forming nomina agentis or nomina actionis elsewhere, cf. for the former: English *boiler*, *mixer* (like *worker*, *lover*); for the latter: German *Heizung*, *Bedeckung* (like *Hoffnung*, *Wirkung*). Nomina concreta can often be described as 'something which + 3sg. of the verb', but still contain a nomina actionis suffix. Let us take some examples from

German. Words like *Heizung* 'heating', *Bedeckung* 'covering' can be described as 'smth. which heats' and 'smth. which covers', but they are never analyzed as nomina agentis, because the suffix *-ung* forms nomina actionis in German.

The situation which we have in English with the suffix *-ing*, or in Sanskrit with the suffix *-a-*, is different. We cannot decide whether or not a nomen concretum, formed with the suffix *-ing* in English, is a nomen agentis, cf. *colouring* (substance), *flavouring*, *covering*, etc. In a similar fashion, we cannot determine the function of Sanskrit nomina concreta formed with the suffix *-a-*. This is the reason why for the first formal analysis we must introduce a new category for the Sanskrit *a*-nouns, that of nomina concreta.

But even with the restricted use of the term "nomen agentis" we cannot avoid ambiguity in case of so-called personifications, when an abstract conception is identified with a person, cf. *counsel* 'advice, consultation' (nom.act.) → 'lawyer; body of legal advisers' (nom.ag.). A clear example of this kind in Sanskrit is *bhága-* 'distribution of wealth, prosperity, wealth' and *Bhága-* 'God-Distributor (of wealth)'. In the same way, many root nouns, originally nomina actionis, have come to denote persons, cf. *dvíṣ-* 'hatred, enmity' and 'enemy', *ríp-* 'deceit' and 'deceiver', *spŕdh-* 'combat' and 'adversary'.

§ **2.42.** *Nomen actionis.* I use this term for nouns which denote the action (crossing, wearing out, pouring) or the abstract conception (violence, fatigue, satisfaction) expressed by the verb they are derived from. Furthermore, several nouns which appear both as nomina actionis and as nomina concreta are considered original nom.act., cf. *máda-* 'excitement, intoxication' and 'intoxicating drink', *bhára-* 'carrying away' and 'gain, booty', etc.

§ **2.43.** *Nomen concretum.* The category of nomina concreta comprises words for which we cannot tell with certainty on the basis of their meaning whether they originally were nomina agentis or nomina actionis. Nomina concreta denote non-abstract portions of reality: concrete things (goad, fuel, stall), natural phenomena (stream, light, rain, mud), etc. Even words which at first sight are likely to be nomina actionis (abode, creature, troop) are tentatively regarded as nomina concreta because it cannot be excluded that they continue old nomina agentis. This precaution is necessary, as nomina agentis can show rather unexpected developments in meaning, cf. English *header* 'stone laid at right angle to face of wall', *stretcher* 'id.; canvas stretched on oblong frame', Dutch *loper* '(stair-case) carpet', derived form the verb *lopen* 'to walk, run'. For the same reason I include "sound nouns" in the category of nomina concreta. In spite of the fact that the agent suffixes but rarely form sound nouns, we do find English *laughter*, sound imitations *flicker*, *slumber*, *twitter*, etc.

After these preliminary remarks, we may proceed to the material. In the following I give all simple deverbative nouns from the Ṛgveda formed with the suffix *-a-* (with the restrictions formulated in § 2.4: only disyllabic words, without reduplication, etc.). They are arranged in accordance with the semantic criteria given above. If a verb does not occur in Sanskrit, but is attested in Iranian, I regard its *a*-derivative as a deverbative and include it in the lists below.

§ 2.44. NOMINA AGENTIS

ajá-$_1$ m. 'driver, drover': √*aj-* 'to drive';
eṣá- adj. 'hastening': √*iṣ*^{i}- 'to set in motion';
oṣá- adj. 'quick (*lit.* burning)' in adv. *oṣám* 'quickly' (10,119,10): √*uṣ-* 'to burn';
kṛśá- adj. 'lean, weak': √*kṛś-* 'to be lean';
krīḍá- adj. 'dancing': √*krīḍ-* 'to play, dance';
codá- m. 'stimulator, goader': √*cud-* 'to impel, incite';
chandá- adj. 'singing, praising (?)' (6,11,3)[16]: √*chand-* 'to please';
jārá- m. 'lover, suitor': √*jṛ-* 'to move' in the sense 'he who comes to' (Bailey 1953: 35f.) or √*gṝ-* 'to welcome, worship' (Burrow 1957: 140);
turá-$_1$ adj. 'quick' (*turá-*$_2$ 'strong' is most probably identical with *turá-*$_1$): √*tvar*^{i}- 'to hurry';
todá- m. 'goader': √*tud-* 'to push, strike';
tośá- adj. 'bounteous': √*tuś-* 'to drip, stream';
tradá- m. 'one who unlocks' (8,45,28): √*tṛd-* 'to split, bore';
tveṣá- adj. 'impetuous': √*tviṣ-* to be excited';
durá- m. 'one who opens, unlocks (?)' (1,53,2): √*dṝ-* 'to pierce, split';
dravá- m. 'runner' (4,40,2): √*dru-* 'to run';
nāyá- m. 'leader': √*nī-* 'to lead';
pārá- m. 'one who brings across' (5,31,8) (elsewhere nom.concr. n. 'the opposite bank'): √*pṛ-* 'to bring across';
pṛkṣá- adj. 'strong': √*pṛkṣ-* 'to make strong' (?) (Bailey 1953: 21ff.);
pravá- adj. 'fluttering': √*pru-* 'to spring up';

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[16] *mádhu chandás*; Geldner ad loc. suggests that *chandá-* = *chándas* n. 'hymn'. He compares N.pr. *Madhucchandas* and probably has compounds in tmesis in mind. Renou translates 'le doux chant', but his comment "*chandáḥ* 'qui charme', comme *chándaḥ*" is unclear to me.

priyá- adj. 'own, dear, beloved': √*prī-* 'to please';
bhaṅgá- m. 'breaker' (9,61,13): √*bhañj-* 'to break';
bhojá- adj. 'bountiful': √*bhuj-* 'to enjoy, use';
bhrājá- adj. 'shining' (10,170,3): √*bhrāj-* 'to shine';
yodhá- m. 'fighter, warrior': √*yudh-* 'to fight';
rebhá- m. 'singer, praiser': √*ribh-* 'to sing';
vará- m. 'suitor': √*vṝ-* 'to choose, love';
vāśá- adj. 'sounding' (8,19,31): √*vāś-* 'to bellow, bleat';
vṛdhá- m. 'one who promotes, strengthens' (also nom.act.): √*vṛdh-* 'to increase, strengthen';
veśá- m. 'inhabitant': √*viś-* 'to settle down, enter';
śayá- adj. 'ruhend' (3,55,4): √*śī-* 'to lie' (Geldner ad loc.);
śāká- adj. 'helpful, benevolent' (also nom.act.): √*śak-* 'to be able';
śāsá- m. 'ruler, master': √*śās-* 'to control, command';
śucá- adj. 'mourning (?)' (2x 10,26,6, cf. Geldner ad loc. and Renou EVP XV: 153): √*śuc-* 'to glow, suffer', later 'to mourn';
śrāyá- adj. 'provided with' (5,53,4): √*śri-* 'to lean upon';
śvetá- adj. 'white, bright': √*śvit-* 'to be white, bright';
sahá- adj. 'superior, mighty': √*sah-* 'to overcome, win';
sāhá- adj. 'superior' (8,20,20): √*sah-* 'to overcome, win';
spārhá- adj. 'desirable': √*spṛh-* 'to be eager, desire eagerly';
svāná- adj. 'rattling' (also nom.act.): √*svan*^{i}*-* 'to roar, rattle'.

The material unambiguously demonstrates that nomina agentis are oxytone in Sanskrit. There is hardly any evidence for barytone nomina agentis. I have found only four apparent cases:

(1) *mógha-* 'false' occurs only as an adverb *mógham* 'in vain, falsely' (10,165,4 *moghám*) and can be an adverb of the type *jóṣam, váram* 'nach Belieben'.

(2) *dábha-* 'one who brings damage' (hapax 5,19,4: *ádabdhaḥ śáśvato dábhaḥ*) applies to Agni and is mostly translated as a nom.ag.: 'unbeschädigt, der Beschädiger vieler' (Geldner), '(Agni est) indommageable, endommageant (lui-même les autres) tous-tant-qu'ils-sont' (Renou). To my mind, it is equally plausible to translate *dábha-* as a nom.act. '(although) invulnerable, (he is) damage to everyone'. Elsewhere, *dábha-* is a nom.act.

(3) *chánda-* occurs only twice, in a simile: 1,92,6 *śriyé chándo ná smayate* and 8,7,36 *chándo ná sū́ro arcíṣā*. Geldner translates these passages 'Schön lächelt sie wie ein Verführer' and 'Wie ein Verführer (lacht) die Sonne im Strahlenglanz', but this interpretation of *chándas* is by no means certain.

(4) *drógha-* is the first member of a compound in tmesis: 6,62,9 *dróghāya*

cid vácase ā́navāya 'to Ānava whose word is deceit(ful)', cf. *droghavā́c-* 'one whose word is deceit(ful)' and Av. *draoγa-* 'deceit' (AiGr. II,1: 288). It is therefore possible that *drógha-* is a nomen actionis.

The other words adduced by AiGr. II,2: 100f. as exceptions to oxytonesis of nomina agentis are nomina concreta and can therefore be a continuation of original nomina actionis, cf. *kṣáya-* 'abode', *góha-* 'hiding-place', *códa-* 'goad', *vā́ra-* 'treasure', and *háya-* 'horse'.

The pervasive and productive oxytonesis of nomina agentis is in keeping with their late origin. As is well known, nomina actionis appear in the sense of nomina agentis when used *in fine compositi*, cf. for the root nouns *víd-* 'knowledge' vs. *viśvavíd-* 'knowing everything', *gṛ́bh-* 'grip, snatch' vs. *syūmagṛ́bh-* 'one who seizes the thong'. The same development has been supposed for the *a*-derivatives. As simplicia they were nomina actionis, as the second member of nominal compounds they were nomina agentis. Nominal compounds, if accented on the second member, are mostly accented on the final syllable (AiGr. II,1: 214), and the second members kept the oxytonesis of compounds when used independently. The oxytone nomina agentis are thus abstracted from compounds (cf. AiGr. II,2: 97). This process of "Verselbständigung von Hintergliedern" (AiGr. II,1: 35) can be clearly observed in Greek, where beside almost every nomen agentis in -o- there exists a compound with the same word as its second member (see also § 3.8).

The oxytonesis of nomina agentis has important consequences for the interpretation of nomina concreta too. It appears that the barytone nomina concreta are unlikely to be a continuation of nomina agentis, as these are always oxytone. The barytone nomina concreta must then derive from nomina actionis.

§ 2.45. In contrast to nomina agentis, nomina actionis do not show a uniform accentuation, as can be seen from the following list:

NOMINA ACTIONIS (barytona)

áma- m. 'violence, fright': √*am*^{i}- 'to press on';
áya- m. 'throw (of dice)' (10,116,9): √*i-* 'to go';
áva-? m. 'favour' (1,128,5). The hapax reads *agnérávena* which is analyzed by Pp. *agnér ávena*. Probably, it is better to split *agné(r) rávena* 'with Agni's roar' (cf. Oldenberg ad loc.);
éṣa-$_{1}$ m. 'haste': √*iṣ*^{i}- 'to set in motion';
éṣa-$_{2}$ m. 'desire': √*iṣ-* 'to seek, desire';
kálpa- m. 'ordinance' (9,9,7): √*kḷp-* 'to succeed, fit';
kéta- m. 'will, intention': √*cit-* 'to perceive, observe';
grábha- m. 'holding fast' (7,4,8): √*gṛbh*^{i}- 'to take hold of';

jána- n. 'birth, origin': √*jan*^{i}- 'to give birth, beget' (*jána-* may also contain the suffix *-na-* or *-ana-*, but cf. § 2.60);

jára- m. 'wearing out, old age': √*jṝ-* 'to make/grow old';

jóṣa- m. 'satisfaction', especially *(ā́, ánu) jóṣam* 'nach Belieben': √*juṣ-* 'to like, enjoy';

tára- m. 'crossing, passage': √*tṝ-* 'to cross, pass over';

dábha- m. 'deceit' (for the apparent *dábha-* m. 'one who brings damage' see above, § 2.44): √*dabh-* 'to hurt, deceive';

dóha- m. 'milking' (10,42,2): √*duh-* 'to milk';

dhána- n. '(prize of) contest, booty, property': √*dhan-* 'to run';

póṣa- m. 'prosperity': √*puṣ-* 'to flourish, prosper';

bhága- m. 'prosperity, fortune': √*bhaj-* 'to distribute';

bhára- m. 'carrying away, gain, booty': √*bhṛ-* 'to carry';

bhóga- m. 'pleasure': √*bhuj-* 'to enjoy, use';

máda- m. 'excitement, intoxicating drink': √*mad-* 'to rejoice, get drunk';

mógha- m. 'delusion' in adv. *mógham* 'in vain, falsely' (type *jóṣam* 'nach Belieben', *váram* 'nach Wunsch, Belieben', cf. above, § 2.44): √*muh-* 'to be bewildered, mistaken';

móda- m. 'delight' (9,113,11): √*mud-* 'to rejoice';

yóga- m. 'harnessing, work': √*yuj-* 'to harness, join';

ráṇa- m. 'pleasure': √*raṇ*^{i}- 'to be pleased, delight';

vára-$_1$ m. 'hindrance' (hapax 1,143,5 *várāya* 'to be stopped'; 3,23,4, 3,53,11 *vára ā́ pṛthivyā́ḥ* belong probably to *vára-* m. 'space', 5,44,12 to *vára-*$_2$): √*vṛ-* 'to hinder, prevent';

vára-$_2$ m. 'choice'[17]: √*vṝ-* 'to choose, love';

várdha- m. 'prosperity' (10,12,4): √*vṛdh-* 'to increase, strengthen';

váśa- m. 'will': √*vaś-* 'to wish, desire';

vā́ja- m. 'strength, speed' (cf. § 2.49);

vā́ra-$_2$ m. 'wish, treasure': √*vṝ-* 'to choose, love';

véda- m. 'knowledge' (8,19,5): √*vid-* 'to know';

śā́ka- m. 'strength, power' (6,24,4): √*śak-* 'to be able';

śā́sa- m. 'order, command': √*śās-* 'to control, command';

śóka- m. 'glow, suffering': √*śuc-* 'to glow, suffer';

śráma- m. 'fatigue' (10,114,10): √*śram*^{i}- 'to become weary';

sárga- m. 'pouring, rush': √*sṛj-* 'to discharge, pour out';

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[17] *vára-*$_3$ 'erwünscht, vorzüglich, besser' does not exist. *váram* is an adverb and always means 'according to one's wish, as one desires', both with and without prepositions *ā́* and *práti*. The passages, listed by Grassmann under *vára-*$_3$, comprise 1,115,6 where *váram* means 'nach Belieben' (Geldner) and 5 occurrences of *váram ā́* used predicatively in the sense 'better than' + Abl. I think that we must analyse this construction as *váram ā́* 'as one likes' + Abl. 'compared with (smth.)', which results in 'better than'. Cf. the comparable use of the Abl. with *pū́rva-* and *anyá-* (Delbrück 1976: 113).

séka- m. 'pouring out (of semen)': √*sic-* 'to pour out';
svéda- m. 'sweat': √*svid-* 'to sweat';
héḍa- m. 'anger': √*hīḍ-* 'to be angry'.

NOMINA ACTIONIS (oxytona)

gṛbhá- m. 'Handhabung' (Geldner) (7,21,2): √*gṛbh*^{i}- 'to take hold of';
ghaná- m. 'slaying' (6,26,8; elsewhere *ghaná-* is a nom. concr. 'club'): √*han-* 'to slay';
javá- m. 'haste, speed': √*jū-* 'to hurry, hasten';
tyāgá- m. 'danger' (4,24,3): √*tyaj-* 'to leave, abandon';
bādhá- m. 'trouble': √*bādh*^{i}- 'to press, force';
bhayá- n. 'fright, fear, danger': √*bhī-* 'to be afraid of';
bhṛmá- m. 'fault': √*bhṛm-* 'to move unsteadily';
marká- m. 'annihilation, death' (10,27,20): √*mṛc-* 'to injure, hurt';
yakṣá- n. 'apparition': √*yakṣ-* 'to display';
vadhá- m. '(violent) death': √*vadh*^{i}- 'to slay, kill' (cf. also *vadhá-* nom. concr. 'murderous weapon');
vṛdhá- m. 'strengthening, prosperity' (8,83,6): √*vṛdh-* 'to strengthen, increase' (elsewhere *vṛdhá-* is a nom.ag. 'one who strengthens');
śāká- m. 'power' (5,12,2, cf. Geldner ad loc.; elsewhere *śāká-* is nom.ag. 'helpful, benevolent; helper, assistant'): √*śak-* 'to be able';
savá-$_1$ m. 'pressing out (of Soma)': √*su-* 'to press out';
savá-$_2$ m. 'setting in motion': √*sū-* 'to set in motion, urge';
sādá- m. 'riding' (1,162,17): √*sad-* 'to sit'.
sāvá- m. translation uncertain: 'pressing out (of Soma)' or 'setting in motion' (10,49,7): √*su-* 'to press out' or √*sū-* 'to urge'.

§ **2.46**. The other deverbative *-a-* nouns are nomina concreta. In view of the pervasive oxytonesis of nomina agentis, it seems reasonable to regard barytone nomina concreta as original nomina actionis:

NOMINA CONCRETA (barytona = original nomina actionis)

áṁśa- m. 'share': √*a(ṁ)ś-* 'to gain, reach';
áṅga- n. 'limb': √*añj-* 'to bend' (Kuiper 1952: 41f.);
édha- m. 'fuel': √*idh-* 'to kindle';
óha- m. '(song of) praise': √*uh-* 'to praise, glorify';
klóśa- m. 'call, shout': √*kruś-* 'to cry out';
kṣáya- m. 'abode': √*kṣi-* 'to dwell' (for the apparent *kṣáya-* 'Herrscher' 8,19,9 see Geldner ad loc.);
gáya- m. 'abode, goods and chattels': √*ji-* 'to be active, live' or √*ji-* 'to overpower', cf. the discussion by Minard (1963: 59);
góha- m. 'hiding-place, lair': √*guh-* 'to conceal, cover';

ghóṣa- m. 'noise': √*ghuṣ-* 'to sound, call out';
gráha- m. 'a measure of Soma' (10,114,5): √*gṛbh*^{i}- 'to take hold of';
códa- m. 'goad' (5,61,3): √*cud-* 'to incite, animate';
jána- m. 'creature, man': √*jan*^{i}- 'to give birth, beget';
jámbha- m. '(set of) teeth': √*jambh-* 'to snap';
tána- m. 'offspring, progeny'[18]: √*tan*$^{(i)}$- 'to extend, spread';
dógha- m. 'milk-stream' (5,15,5): √*duh-* 'to milk';
pā́śa- m. 'snare, tie' < **peH*$_2$*ḱ-o-* is derived from the IIr. verb preserved in Avestan (cf. Av. *ava.pašaṱ* 'one should fetter');
yáma- m. 'reign, bridle': √*yam-* 'to hold, control';
táva- m. 'roar': √*rū̆-* 'to roar';
róka- m./n. 'light' (6,66,6): √*ruc-* 'to shine' (cf. *roká-* 3,6,7);
śáṁsa- m. 'praise': √*śaṁs-* 'to praise, declare';
śárdha- m. 'troop (of Maruts)'[19]: √*śardh-* 'to exhibit strength, show off';
śúka- m. 'parrot', probably derived from the IIr. root, preserved in Khot. *sūch-* 'to call, name' (Bailey 1958: 156f.);
sū́da- m. 'mud, dregs (?)' (for the discussion of the meaning see Oldenberg ad 10,61,2): √*sūd-* 'to season, put in order';
stáva- m. 'praise' (9,55,2): √*stu-* 'to praise, celebrate';
háya- m. 'horse' (*lit.* '*Ansporn, Antrieb', Mayrhofer s.v.): √*hi-* 'to impel';
háva- m. 'call': √*hū-* 'to invoke, call';
hása- m. 'laughter' (10,18,3): √*has-* 'to laugh'.

The oxytone nomina concreta are ambiguous, as they can derive either from nomina actionis or from nomina agentis:

Nomina concreta (oxytona)

aṅká- m. 'hook' (1,162,13): √*añc-* 'to bend, curve';
ará- m. 'spoke of a wheel': √**ar- (arpáyati)* 'to fix';
arká- m. 'ray, sun, fire; praising song': √*arc-* 'to shine, praise';
āná- m. 'mouth' (1,52,15): √*an*^{i}- 'to breathe';
kará- m. 'hand (?)' (1,116,13, 10,67,6): √*kṛ-* 'to make';

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[18] *tána-* adj. 'fortdauernd' assumed by Grassmann for *tánā* in 8,25,2 and 9,62,2 does not exist: in the former passage *tánā* is an adverb 'dauernd' = instr.sg. of *tán-*, in the latter it is probably the instr.sg. of *tán-* meaning 'durch Fortgang' *uel sim.* (cf. Oldenberg ad loc.).

[19] *śárdha-* adj. 'stark, kühn', m. 'Held, Heerführer' does not exist. In all passages listed by Grassmann under these meanings we can translate *śárdha-* with 'troop (of Maruts)' or with 'strength'. The latter meaning is probably even dispensable (cf. Oldenberg ad 8,93,16).

kārá- m. 'chant of victory, victory': √*kr̥̄-* 'to praise';
kālá- m. 'time' (10,42,9): √*cr̥̄-* 'to move, walk';
gāhá- m. 'depth, interior' (9,110,8): √*gāh-* 'to dive, plunge into';
grābhá- m. 'snatch (of a hand), a measure': √*gr̥bh*^{i}- 'to seize, take hold of';
ghaná- m. 'club': √*han-* 'to slay';
darbhá- m. '(tuft of) grass' (1,191,3): √*dr̥bh-* 'to string together';
dhvajá- m. 'flag, banner' from the IIr. verbal root preserved in Av. *dvaž-* 'flutter';
nadá- m. 'bull, reed': √*nad-* 'to sound, roar';
nādá- m. 'roar' (10,11,2): √*nad-* 'to sound, roar';
nāvá- m. 'praising song': √*nū̆-* 'to shout, praise';
pārá- n. 'the opposite bank': √*pr̥-* 'to bring across';
plavá- m. 'boat' (1,182,5): √*plu-* 'to swim, float';
bandhá- m. 'fetter': √*bandh-* 'to bind';
bhāgá- m. 'portion, share': √*bhaj-* 'to distribute';
bhārá- m. 'burden': √*bhr̥-* 'to carry';
bhedá- du. 'vulva' < 'cleft': √*bhid-* 'to split';
bhogá- m. 'curve, ring of a snake': √*bhuj-* 'to bend, curve';
bhramá- m. 'blazing flame': √*bhr̥m-* 'to move unsteadily, flicker';
mr̥kṣá- m. 'horse-comb' (8,66,3): √*mr̥kṣ-* 'to rub, curry';
yugá- n. 'yoke': √*yuj-* 'to harness, join';
rambhá- m. 'support, stock' (8,45,20): √*ra(m)bh-* 'to lean upon';
roká- m. 'light' (3,6,7): √*ruc-* 'to shine' (cf. *róka-* 6,66,6);
loká- m. 'open space': √*ruc-* 'to shine';
logá- m. 'clod of earth': √*ruj-* 'to break, shatter';
vadhá- m. 'murdering weapon': √*vadh*^{i}- 'to slay, kill';
varṣá- n. 'rain': √*vr̥ṣ-* 'to rain';
vāká- m. 'song of praise': √*vac-* 'to speak, say';
vāhá- m. 'draught-animal': √*vah-* 'to drive, draw';
vrajá- m. 'fold, enclosure, stall' derived from the root preserved in Av. *varəz-* 'to shut, obstruct';
sarpá- m. 'snake' (10,16,6): √*sr̥p-* 'to creep';
skambhá- m. 'support, post': √*ska(m)bh*^{i}- 'to support, fix';
svaná- m. 'rattle, noise': √*svan*^{i}- 'to sound, roar, rattle';
svará- m. 'sound, voice': √*svar-* 'to sound, sing';
svārá- m. 'noise' (2,11,7): √*svar-* 'to sound, sing';
hradá- m. 'lake': √*hlād-* 'to refresh oneself';
hvārá- m. 'snake': √*hvr̥-* 'to go crookedly'.

§ **2.47.** Let us review our results so far. The τόμος/τομός distribution for the suffix *-a-* proved valid only for nomina agentis, which are always oxytone indeed due to their origin as second members of compounds. On the other hand, nomina actionis show both accentuations: the barytonesis is much more frequent (38 words), but oxytonesis is sufficiently attested as well (16 words).

How can we explain this distribution? The τόμος/τομός system with *o*-derivatives must date from late PIE, as it is also found in Greek (cf. § 3.8) and, to some extent, in Slavic (Kortlandt 1979). Nevertheless, in view of many exceptions to this system in Sanskrit and Greek, we must assume that the τόμος/τομός distribution was not an absolute law in PIE, but rather a tendency, which was further developed in the separate languages. In order to explain the origin of this distribution, we may reconstruct three prehistoric stages:

I. *o*-derivatives are mostly nomina actionis when used as simplicia, and nomina agentis when used *in fine compositi.*[20] Simplicia can be either barytone or oxytone; second members of compounds (if accented) are always accented on the final syllable.

II. Second members of nominal compounds begin to be used as simplicia and form a new category of oxytone nomina agentis. This creates an opposition between oxytone nomina agentis, on the one hand, and nomina actionis without a uniform accentuation, on the other.

III. Nomina actionis generalize barytonesis in contrast to the oxytonesis of nomina agentis. The rise of the τόμος/τομός system.

This means that only oxytone nomina actionis, which resisted the pressure of the τόμος/τομός system, can testify to an archaic stage of PIE accentuation. Oxytone nomina agentis and barytone nomina actionis show partly productive accentuation on the basis of semantic criteria and cannot be used in our investigation. Nomina agentis are secondary at any rate, while barytone nomina actionis are ambiguous as far as their accentuation is concerned: the barytonesis may be old, but it may be recent as well.

It can be demonstrated that the τόμος/τομός system was productive in Sanskrit, and that the "new" nomina actionis were always barytone. For example, the non-etymological *-h-* in *dóha-* (10,42,2) 'milking' (taken from pres. *duhé*, root noun °*dúh-*, *dohána-* 'milking', etc.) shows that this word is a replacement of older *dógha-* (5,15,5), which acquired a concrete meaning 'milk-stream' and could not be used as nomen actionis. There are more examples of this kind in later texts (AiGr. II,2: 92f.), cf. esp. AV *móha-* 'delusion' vs. RV *mógham* 'falsely, in vain'. Similarly, the velar

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[20] This is what we expect at any rate because the same distribution is found with root nouns, which are the prehistoric source of the *-o-* derivatives (Beekes 1985: 184ff.).

-*g*- of *sárga*- 'pouring, rush' (-*j*- would have been phonetically regular) points to the secondary character of this word.

Furthermore, the following pairs can be explained if we assume that new, barytone nomina actionis were created when the old ones became nomina concreta:

árdha- 'region, side' - *ardhá*- 'half'[21]
grábha- 'holding fast' (7,4,8) - *grābhá*- 'snatch'
bhága- 'prosperity, God of distribution' - *bhāgá*- 'portion'
bhára- 'carrying, gain' - *bhārá*- 'burden'

If this analysis of *ardhá*-, *grābhá*-, *bhāgá*- and *bhārá*- as original nomina actionis is correct, we may include these words in the evidence.

§ 2.48. The divergent vocalism of the pairs *grábha*-: *grābhá*-, *bhága*-: *bhāgá*, and *bhára*-: *bhārá*- needs some comment. The PIE *o*-deverbatives had *o*-grade in the root (the zero-grade and *e*-grade are rare), which is corroborated by IIr. evidence, cf. Skt. *kará*-, *kéta*-, *gáya*-, *ghaná*-, etc. with non-palatalized velars. Accordingly, we expect to find long *ā* in open syllables and short *a* in closed syllables in accordance with Brugmann's Law. The *a*-derivatives from nominal roots follow this Law, cf. the long -*ā*- from *-*o*- in *vā́ra*- 'horse-hair', *śā́pa*- 'driftwood', *grā́ma*- 'community' ~ Lith. *vãlas*, *šãpas*, Russ. *gromáda*; but the short -*a*- from *-*e*- in *náva*- 'new', *sána*- 'old', *śáma*- 'hornless', *padá*- 'step', *sasá*- 'seed' ~ Gr. νέος, ἕνος, κέμας, πέδον, Hitt. *šeša*-.

As was demonstrated by Kuryłowicz (1927: 209ff.), the *ā*/*a*-distribution in second members of Indo-Iranian *tatpuruṣa*-compounds is also to a great extent in accordance with Brugmann's Law. The *a*-derivatives from *aniṭ*-roots show long *ā* in the root, those from *seṭ*-roots show short

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[21] Although the verb √*ṛdh*- is not attested in Indo-Iranian, one may consider *ardha*- as an original deverbative in view of Skt. *ṛdhak* adv. 'separately' and Lith. *ardýti* 'separate, divide'. As far as I know, the essential difference between *árdha*- and *ardhá*- has never been made explicit. *árdha*- refers to a district, region, one of different parts of the whole, while *ardhá*- always denotes a half/part in contradistinction to the other half/part. Diagnostic examples are: 1,92,1 *pū́rve árdhe rájasaḥ* 'in the eastern region of space', 1,164,12 *diváḥ...páre árdhe* 'in the remote region of the sky', 1,164,17 *káṃ svid árdham párāgat* 'for which region did she leave?' vs. 10,27,18 *pácāti némo nahí pákṣad ardháḥ* 'some shall cook, the others shall not cook', 4,32,1 *asmā́kam ardhám ā́ gahi* 'come to our party (as opposed to that of the adversary)', cf. Gonda 1953: 29ff. with more examples. It seems that the original meaning of both *árdha*- and *ardhá*- is 'separation, division', but as *ardhá*- has a more concrete sense, it must be the older variant. This is confirmed by Av. *arəδa*-, which means 'one of the two sides' (it occurs with adjectives like *antara*- 'the other', *dašina*- 'right', and in the compound *antarə.arəδəm* 'innerhalb') and is thus identical with *ardhá*-.

a, as the root-final laryngeal made the syllable closed. Diagnostic examples are: *ā-sāvá-* (√*su-*) vs. *pra-savá-* (√*sū-*), *ā-hāvá-* (√*hu-*) vs. *ā-havá-* (√*hū-*), *yut-kārá-* (√*kṛ-*) vs. *ā-kará-* (√*kṛ*^{i}*-*) (p. 212). Although exceptions to this distribution are rather numerous, some 75 per cent of Kuryłowicz's material is in accordance with it.

On the other hand, compounds of the *su-kára-* type (*su-kára-* 'easy to be done' with the accent on the penult) practically never have long *ā*. The only exceptions are: *su-rā́ma-*, *su-ṣā́ha-* next to *su-ṣáha-*, and *dū-ṇā́śa-* next to *dū-ṇáśa-*; *su-bhāgá-* and *su-pārá-* are *tatpuruṣa*'s and therefore regular (AiGr. II,2: 63).

Brugmann's Law does not seem to operate in deverbative simplicia. We find long *ā* in words derived from *seṭ*-roots: *āná-*, *nāyá-*, *sāvá-*, *svā̆ná-*, and even in *spārhá-*; and short *a* in words derived from *aniṭ*-roots: *ará-*, *kará-*, *ghaná-*, *tradá-*, etc. This situation with simplicia led Wackernagel and Debrunner to the view that "ein *a*-Vocal vor einfachem Konsonanten erscheint teils als Kürze, teils als Länge (beides überaus häufig), ohne daß sich für diesen Unterschied irgendwie *eine* einigermaßen durchgehende Regel finden ließe" (II,2: 61).

There is a rule, however, given by Kuryłowicz (1956: 325f.) and previously already mentioned by Whitney (1889: 424), viz. that long *ā* occurs in oxytona only. Barytona show short *a* throughout (*áma-*, *áya-*, *áva-*, *kṣáya-*, *gáya-*, *grábha-*, etc.) both with *seṭ-* and *aniṭ*-roots. The only exceptions are *jā́na-* n. 'birth', *vā́ra-* 'treasure', and *śā́ka-* 'help, strength' (*jā́ra-* 10,106,7 and *lā́yam* 10,42,1 are unclear, cf. Geldner ad loc.) where the length may be secondary, cf. *jā́-* 'creature', *jātá-* 'id.'; *vā́rya-* 'valuable; n. treasure'; *śāká-*, *śā́kman-*. This distribution (*ā* in oxytona, *a* in barytona) accounts for the divergent vocalism in the afore-mentioned pairs: *grábha-*: *grābhá-*, *bhága-*: *bhāgá-*, and *bhára-*: *bhārá-*.

The short *a* of barytona is reminiscent of the short *a* of *su-kára-* compounds. There apparently was a synchronic Sanskrit rule that the accented *a* must be short. The origin of this rule is not quite clear. The most probable explanation is that the rule reflects the period when barytone *a*-derivatives had the *e*-grade of the root while the oxytona had the *o*-grade or zero-grade.

Isolated a-derivatives

§ 2.49. We can now proceed to the isolated *a*-derivatives, i.e. words which synchronically have no verb at their side ("ohne verbale Grundlage"). We must distinguish between words derived from nominal roots and those derived from verbs which by chance are unattested in Sanskrit. If the verb is attested in Iranian, its *a*-derivative is included in the lists of deverbatives above. If this is not the case, the decision is much more difficult.

Since the τόμος/τομός system is of IE date, we must check for every word whether or not it is derived from a verb which existed in PIE but disappeared in Indo-Iranian. Above I mentioned Skt. *ardha-*, which seems to be an original deverbative. In a similar fashion, *vā́ja-* m. 'strength, speed', which is isolated in Sanskrit, must be an IE deverbative formation (it must be connected either with Lat. *vegēre*, or with Gr. ἄγνυμι). Possible deverbative origin of other words is discussed below in the material.

Another problem which must be discussed is the influence of the τόμος/τομός system on isolated derivatives. For instance, isolated adjectives with *o*-grade are mainly oxytone, cf. *aghá-* 'bad', *andhá-* 'blind', *āmá-* 'raw', *ārá-* 'far', *srāmá-* 'cripple', while adjectives with *e*-grade of the root preserve their accentuation, cf. *náva-* 'new', *śáma-* 'hornless', *sána-* 'old'. In my opinion, the oxytonesis of isolated adjectives with *o*-grade in the root can be explained by the influence of deverbative adjectives (nom.ag.), which are all oxytone (cf. § 2.44). This influence seems evident in the case of *srāmá-* 'cripple' vs. *srā́ma-* 'lameness'.

Denominal a-derivatives

§ 2.50. Finally, I would like to add some remarks on the denominal formations. The *a*-derivatives sometimes represent thematicized root nouns, cf. *dáma-* and *dám-* 'house', *pā́da-* and *pā́d-* 'foot', *vána-* and *ván-* 'wood', etc. When both root noun and *a*-derivative are found in Sanskrit, the *a*-derivative is clearly a recent Sanskrit formation and is therefore omitted. Also if a root noun is attested in Iranian (cf. Skt. *himá-* 'snow' vs. Av. *zyā̊* 'winter', Skt. *viṣá-* 'poison' vs. Av. *viš-* 'id.'), it has seemed safer to leave the *a*-derivative out of consideration.

Several cases are more difficult however. For example, *padá-* 'step' is derived from the word for 'foot', but this is a formation of PIE date, as can be seen from Gr. πέδον 'ground', Hitt. *pedan* 'place', etc. I include such words in the material, as they give evidence of the archaic PIE accentuation (see also § 2.36 for general remarks on denominal formations).

§ 2.51. THE EVIDENCE.

The following words from Grassmann's reverse index are omitted:

(1) Words discussed in the text above: deverbatives, except for oxytone nomina actionis (see § 2.47ff); *árdha-* (see fn.21), *vā́ja-* m. 'strength, speed' (see § 2.49);

(2) For *śṛ́ṅga-* see under the suffix *-ga-*; for *kā́ma-*, *rāmá-* see under the suffix *-ma-*; for *ādhrá-*, *kṣīrá-*, *kṣurá-*, *ghorá-*, *śvábhra-*, *sphirá-* see under the suffix *-ra-*; for *jīvá-* see under the suffix *-va-*; for *kákṣa-*, *dákṣa-*, *bhakṣá-* see under the suffix *-sa-*; *vratá-* contains the suffix *-ata-*; *óṣṭha-* contains the suffix *-tha-*;

(3) Non-existent words: *áha-* (= *áhan-*), *āsá-* (adv. *āsā́t* is reshaped from *ā́s* in parallel to *dūrā́t*), *divá-* (8,34,1-15 *divám* is a mistake in Aufrecht's edition, cf. Oldenberg ad loc.), *médha-*$_1$ (= *médha-*$_2$), *medhá-* (= *medhā́*), *víṣa-* (= *víṣ-*), *sasá-*$_1$ 'sleep' (1,51,3) (= *sasá-*$_2$ 'food'), *sā́dha-* (= *sā́dh-*), *hurá-* (= *hurás*);

(4) Words not occurring in RV or not occurring as simplicia: *arghá-*, *áṣa-* (only *áṣatarā* 1,173,4 '?'), *kaná-*, *kāmá-*, *kúla-*, *kráma-*, *gehá-*, *dúgha-* (only *dúghā*), *mū́ra-*, *ráibha-* (only *ráibhī*), *vépa-* (only *vépī*), *hayá-*;

(5) Words of non-IE origin: *phála-* n. 'fruit', *bundá-* m. 'arrow, bow', *busá-* '?' (10,27,24);

(6) Words of uncertain meaning and/or etymology:

ákra- '?' (1,120,2),
áṇva- n. 'sieve',
ánya- '?' (8,1,10 and 8,27,11) (= *anyá-?*),
íbha- m. 'servants, household',
ubhá- adj. 'both',
úṣa- '?' (10,95,4) (acc.pl. of *úṣas-* 'dawn', Oldenberg ad loc.?),
eṣá- '?' (1,180,4),
kāṭá- m. 'deepness, dale' (1,106,6),
kī́ja- m. 'spur(?)' (8,66,3),
kúṭa- '?' (1,46,4),
kulphá- m. 'ankle' (7,50,2),
kūṭá- n. 'hammer, mallet' (10,102,4),
kū́la- n. 'slope' (8,47,11),
kóśa- m. 'cask, coop',
khála- m. 'thrashing-floor' (10,48,7),
gaṇá- m. 'troop, series',
gādhá- n. 'ford',
chā́ga- m. 'he-goat',
jā́ra- '?' (10,106,7),
turá-$_3$ adj. 'ill' (8,68,2),
dvará- m. '?' (1,52,3),
naḍá- m. 'reed' (8,1,33) (= *nadá-?*),
náma- '?' (3,39,6),
nā́ka- m. 'sky, firmament',
píṇḍa- n. 'ball, globe' (1,162,19),
piśá- m. 'fallow deer (?)' (1,64,8),
bíla- n. 'cave, hole',
bī́ja- n. 'semen, seed',
bhā́ma- m. 'anger, wrath',
makhá- adj. '?',
mū́la- n. 'root' (10,87,10),
yū́pa- m. 'sacrificial post',
rūpá- n. 'appearance, shape',
lā́ya- 'bent down (?)' (10,42,1, cf. Geldner ad loc.),
lodhá- '?' (3,53,23),
vaṁśá- m. 'cane' (1,10,1),
vāsá- '?' (5,43,14),
śará- m. 'reed' (1,191,3),
śā́da- m. 'grass, green parts of a plant' (9,15,6, Geldner ad loc.),
śī́bha- adj. 'swift',
śépa- m. 'tail, penis',
sā́ra- '?' (3,53,19),
siṁhá- m. 'lion',
sína- n. 'provision, supply (?)',
stegá- '?' (10,31,9),
sruvá- m. 'small wooden ladle';

(7) Proper names: *ārkṣá-*, *aiḍá-*, *kāṇvá-*, *kŕ̥pa-*, *tā́nva-*$_2$, *turvá-*, *taugryá-*, *dása-*, *paidvá-*, *mā́na-*, *yā́dva-*, *ráudra-*, *valá-*, *vāyyá-*, *śāṇḍá-*;

(8) Compounds: *ajá-*$_3$ (but cf. Kuiper 1965-6: 30f.), *ábhva-*, *āprá-* (1,132,2, cf. Geldner ad loc.), *āyá-*, *ā́skra-*, *goghná-*, *gopá-*, *gotrá-*, *goṣṭhá-*, *triṣṭhá-*, *pr̥ṣṭhá-*, *durgá-*, *dvīpá-*, *nīcá-*, *nīḍá-*, *prācá-*, *prāṇá-*, *prāyá-*, *préṣa-*, *médha-*$_2$, *víbhva-*, *saṃgá-*, *sukhá-*, *sugá-*, *sughná-*, *sváṅga-*, *svajá-*, *svarká-*;

(9) Onomatopoetic *cā́ṣa-* 'the blue jay';

(10) Reduplicated nouns: *cakrá-*, *dr̥dhrá-* (cf. Hoffmann 1975-6: 400), *pāpá-*, *vavrá-*, *sasrá-*;

(11) Denominal formations: *akṣá-*$_1$, *āntrá-*, *āptyá-*, *kṣáita-*, *kṣáitra-*, *cākṣmá-*, *tā́nva*$_1$-, *dáma-*, *dā́sa-*, *devá-*, *pā́da-*, *pārśvá-*, *pāstyá-*, *paurá-*, *mahá-*, *mauñjá-*, *vána-*, *śūṣá-* (cf. Mayrhofer s.v.), *sā́pta-*, *sāptá-*, *sū́ra-*, *svargá-*, *haṁsá-*;

(12) Words formed from secondary verbal stems: *iná-* 'mighty' (Kuiper 1973: 184), *tuñjá-* in *tuñjé-tuñje* (1,7,7), *náṁśa-* 'acquisition', *vená-* 'one, who watches' (Schmid 1965: 1ff.), *hinvá-* 'drover' (8,40,9);

(13) Numerals *dvayá-*, *trayá-*.

Barytona

+ *áṁsa-* m. 'shoulder' < *_Homs-o-_. In view of Arm. *us* the reconstruction *_H_3emso-_ is impossible (Kortlandt 1983b: 12ff.). Gr. ὦμος and Goth. *ams* confirm the barytonesis. Toch. A *es*, B *āntse* may point to PToch. *_anse_ < *_H_2emso-_.

- *ákṣa-* m. 'axle' < *_H_2eḱs-(o-)_ is most probably an old root noun or an *s*-stem, as can be seen from different stem formations in other languages, cf. Gr. ἄξων, Lat. *axis*, Lith. *ašìs*, OCS *osь*, OHG *ahsa* 'id.', etc.

+ *ánta-* m. 'end, limit, boundary' < *_H_2ent-o-_ is most probably a denominative from *_H_2ent-_, cf. Hitt. *ḫant-* 'front', but one of IE date.

+ *árbha-* adj. 'little, young' < *_$H_{(3)}$e/orb^h-o-_. The *H_3* follows from Hitt. *ḫarp-* 'to separate oneself' in combination with non-apophonic *o* in other languages (Gr. ὀρφανός, Arm. *orb*, Lat. *orbus*, Goth. *arbi*, etc.). Arm. *orb* points to *_Horb^{h}o-_ (Kortlandt 1983b: 12).

+ *ŕ̥kṣa-* m. 'bear' < *_H_2rt-ḱo-_. Most probably, this word must be analyzed as *_H_2rt-ḱo-_, with the suffix *-ḱ(o)-* occurring in the names of animals, cf. PIE *_H_1e/ol-ḱ(i)-_ / *_H_1l-ḱ(i)-_ (OHG. *ëlho*, OIc. *elgr*, Russ. *los'* 'elk', Skt. *ŕ̥śya-* 'he-antelope') vs. *_H_1el-n-_ (Gr. ἔλαφος, ἐλλός; OCS *elenь* 'deer', etc.). The word is then an old denominative formation with the suffix *-ḱo-*, but its formation dates from PIE. Gr. ἄρκτος confirms the barytonesis.

? _kū́pa-_ m. 'hole, cave' (1,105,17) < *_kuHp-(o-)_. Other cognates point to an _ā_-stem (Gr. κύπη, Lat. _cupa_, etc.), which presupposes an original root noun (or a _p_-stem?). Cardona (1968) adduced convincing arguments in favour of the non-IE origin of this word.

+ _gárbha-_ m. 'foetus, womb' < *$g^{w}orb^{h}$_-o-_.

+ _grā́ma-_ m. 'troop, community' < *_grom-o-_. Skt. _saṃ-grāmá-_ (AV. +) m. 'crowd, battle' may point to the previous existence of a verb, but this is uncertain.

+ _náva-_ adj. 'new' < *_neu-o-_. The same accentuation is attested in Gr. νέος and Slav. *_nòvъ_ (b) 'id.' (Illich-Svitych § 55). Even if this word is derived from an adverb *_nŭ_, it is a denominative of PIE date.

? _phā́la-_ m. 'plough-share' < IIr. *_(s)p(H)ār/l-a-_. Further connections are uncertain.

? _bála-_ n. 'strength, power' < *_bel-o-_. Since there is hardly any other evidence for word-initial _b-_ in PIE, one must consider the word family of _bála-_ uncertain. If Kortlandt's hypothesis that PIE *_b-_ > *_p-_ (p.c.) is correct, _bála-_ can be explained as an original second member of compounds like Lat. _dē-bilis_.

+ _mála-_ n. 'dirty clothes of a _múni_' (10,136,2) < *_me/olH_$_2$_-o-_. The laryngeal follows from Gr. μέλᾱς 'black' and Latv. _mel̃ns_ 'id.'.

? _múkha-_ n. 'mouth, face' < IIr.*_mukH-a-_. Further connections are uncertain.

+ _yáva-_ m. 'grain, corn' < *_Hieu-o-_. For the reconstruction of the initial laryngeal see Forssman 1987. Barytonesis is also attested in Lith. _jãvai_ (2) pl. 'grain' (Illich-Svitych § 9). The _e_-vocalism follows from the short vowel in Sanskrit and from Gr. ζειαί f.pl. 'spelt', Hitt. _eu̯a-_ 'eine Feldfrucht und das daraus bereitete Gericht'.

- _rása-_ m. 'sap, juice' < *_Hros-o-_. In view of Lat. _rōs_ 'dew' and Skt. _rasā́_ 'liquid', we must assume an original root noun.

+ _vára_$_1$- m. 'space' < *_H_$_1$_uorH-o-_ in _vára ā́ pr̥thivyā́ḥ_ (3,23,4; 3,53,11).

+ _vā́ra-_ m. 'the hair of horse's tail' < *_uol-o-_. Lith. _vãlas_ (2) 'horse-hair' shows the same accentuation (Illich-Svitych § 44).

+ _vŕ̥ka-_ m. 'wolf' < *_ulk_^{w}_-o-_. The same accentuation is attested in Gr. λύκος and Goth. _wulfs_. The oxytonesis attested in Slav. *_vьl̂kъ_ (c) 'id.' is ambiguous (Illich-Svitych § 44).

? _śána-_ adj. 'gradual' in adv. _śánaiḥ_ 'gradually, slowly' < IIr.*_ćana-_ (Sogd. _sn-_ 'ansteigen, aufsteigen'). Further connections are unknown.

+ _śáma-_ adj. 'hornless' < *_ḱemH_$_2$_-o-_. For the laryngeal cf. Gr. κεμάς 'fawn'.

+ _sána-_ adj. 'old' < *_sen-o-_. The accentuation is confirmed by Gr. ἕνος and Lith. _sẽnas_ (2) 'id.' (Illich-Svitych § 21).

+ _śā́pa-_ m. 'driftwood, floating' < *_ḱop-o-_. The same accentuation is

attested in Lith. _šãpas_ (2) ‘straw’ (Illich-Svitych § 9). If the connection with Lithuanian verb _šàpti_ ‘to disappear’ is correct, _śā́pa-_ is a deverbative.
+ _srā́ma-_ m. ‘lameness’ (8,48,5) < *_srom-o-_, if connected with OCS _xromъ_ ‘cripple’. The accentuation of _srāmá-_ adj. ‘cripple’ (1,117,9) is most probably analogical, being due to the oxytonesis of adjectives with _o_-grade in the root (see § 2.49).
+ _stána-_ n. ‘female breast, nipple’ < *_psten-o-_. The initial cluster is abnormal, but the further analysis of the root is uncertain. The word is probably an original _n_-stem.

Oxytona

? _aghá-_ adj. ‘bad’ < *_Hog_^{h}_-o-_ (*_H_$_2$_eg_^{h}_-o-_). The oxytonesis could be secondary (cf. § 2.49).
+ _ajá-_$_2$ m. ‘billy-goat’ < *_H_$_2$_eǵ-o-_.
? _andhá-_ adj. ‘blind’ < *_H_$_2$_end_^{h}_-o-_. The only cognate outside IIr. is a Gallic loan in Latin _andabata-_ ‘gladiator fighting in a helmet without openings’, which is not a very solid basis for the IE etymology. If this word has _o_-grade in the root, it may have secondary oxytonesis (cf. § 2.49).
+ _ardhá-_ m. ‘half’ < *_H_$_2$_erd_^{h}_-o-_ (cf. fn.21).
? _āmá-_ adj. ‘raw’ < *_H_$_3$_eHm-o-_. Arm. _hum_ ‘id.’ points to *_H_$_3$_e-_ (Kortlandt 1983b: 12). If the Skt. word had _o_-grade in the root, its oxytonesis can be secondary (see § 2.49).
? _ārá-_ adj. ‘far’ in adv. _ārā́t_ ‘from afar’, _āré_ ‘far’ < *_Holo-_ (?). The oxytonesis is most probably analogical due to the _-o-_ in the root (cf. § 2.49).
? _kumbhá-_ m. ‘jar, pitcher’ < IIr. *_k(H)umb_^{h}_a-_, if connected with Av. _xumbō_. The word can hardly be of PIE origin because of the 3 consecutive sonants within the root. The initial _k-_ must be due to the secondary Grassmann’s Law in Sanskrit, as Sindhi _khumbu_, Lahnda _khumbh_ point to the original *_khumbha-_ (Turner 1963: 170). Connections outside Indo-Iranian are uncertain. Cardona 1968 adduced strong arguments for the non-Indo-European origin of _kumbhá-_ and _kū́pa-_ (see s.v.).
? _gandhá-_ m. ‘smell’ (1,162,10) < IIr. *_g_$^{(h)}$_and_^{h}_-a-_. Further connections are uncertain.
+ _gṛbhá-_ m. ‘Handhabung’ (Geldner) (7,21,2): nom.act. of √_gṛbh_^{i}_-_ ‘to take hold of’, PIE *√_g_^{h}_erb_^{h}_H-_. The interpretation of _gṛbhá-_ as nomen agentis (Oldenberg, ad loc.) is less probable.
+ _gṛhá-_ m. ‘house’ < *_ǵ_^{h}_ṛd_^{h}_-o-_. The Skt. _g-_ is probably due to Weise’s Law (1881: 115f), as Lith. _žárdas_, Russ. _zorod_ point to an original palatal in this root (cf. Kortlandt 1978: 238).

+ *grābhá-* m. 'snatch (of a hand), a measure': the original nom.act. of √*gṛbh*^{i}- 'to take hold of', PIE *√*gʰerbʰH-* (cf. § 2.47).

+ *ghaná-* m. 'slaying' (6,26,8; cf. also *ghaná-* nom.concr. 'club'): nom.act. of √*han-* 'to slay', PIE *√*gʷʰen-*.

? *javá-* m. 'haste, speed': nom.act. of √*jū-* 'to hurry, hasten', IIr. *√*źuH-* (< *ǵ-). Connections outside Indo-Iranian are uncertain.

? *toká-* n. 'offspring, children' < IIr. **tauk-a-*. Connections outside IIr. are uncertain.

+ *tyāgá-* m. 'danger' (cf. for the meaning Hoffmann 1967: 158) (4,24,3): nom.act. of √*tyaj-* 'to leave, abandon', PIE *√*tiegʷ-*.

? *dāsá-* m. 'demon, enemy' < IIr. **dāsa-*. The PIE etymology of this word is unknown. The barytone *dā́sa-* adj. 'demonic, barbarian', m.f. 'demon, barbarian' is a *vṛddhi*-formation from *dāsá-* (AiGr. II,2: 110).

+ *dīrghá-* adj. 'long' < **dlH*$_1$*gʰ-o-*.

+ *dhruvá-* adj. 'firm, fixed' < **dʰruH-o-*. Cf. for the reconstruction s.v. *dhruv-í-*.

? *nakhá-* n. 'nail' < IIr. **(H*$_3$*)nakH-a-*. The origin of *-kH-* is unclear. Other IE cognates point to *-*gʷʰ-*, which must have been changed secondarily in IIr.

+ *padá-* n. 'step, footstep' < **ped-o-*. This word is a denominative, but one of PIE date (cf. Gr. πέδον 'ground', Hitt. *pedan* 'place', Arm. *het* 'footstep', etc.). The accentuation of Gr. πέδον is secondary (see § 3.7).

+ *bādhá-* m. 'trouble': nom.act. of √*bādh*^{i}- 'to press, force', PIE *√*bʰedʰ-*. The Sanskrit verb has generalized lengthened grade.

+ *bhayá-* n. 'fright, fear, danger': nom.act. of √*bhī-* 'to be afraid of', PIE *√*bʰeiH-*.

+ *bhāgá-* m. 'portion, share': the original nom.act. of √*bhaj-* 'to distribute', PIE *√*bʰeH*$_2$*g-* (cf. § 2.47). For the reconstruction of the root cf. Lubotsky 1981b.

+ *bhārá-* m. 'burden': the original nom.act of √*bhṛ-* 'to carry', PIE *√*bʰer-* (cf. § 2.47).

+ *bhūrjá-* m. 'birch' < **bʰrH*$_2$*ǵ-o-*.

+ *bhṛmá-* m. 'fault', 'Ungeduld' (Geldner): nom.act. of √*bhṛm-* 'to move unsteadily', PIE *√*bʰrem-*. Oldenberg's interpretation of *bhṛmá-* as nom.ag. 'rasch sich tummelnd' (ad 7,1,22) is less probable.

? *maghá-* n. 'gift, wealth' < IIr. **magʰ-a-*. Connections outside IIr. are uncertain.

? *marká-* m. 'annihilation, death' (10,27,20): nom.act. of √*mṛc-* 'to injure, hurt', PIE *√*melkʷ-*. It is possible, however, that this word is an original nom.ag. ('annihilator', AiGr. II,2: 98f.). Note that *-hr-* in Av. *mahrka-* points to barytonesis (cf. § 1.20).

? *mṛgá-* m. 'deer, forest animal' < IIr. **mrg-a-*. The IE etymology of this word is uncertain.

+ *meghá-* m. 'cloud' (1,181,8) < **H_3meig^h-o-*. Lith. *miẽgas* (4) 'sleep' confirms the oxytonesis (Illich-Svitych § 10). If the Lithuanian verb *užmìgti* 'to fall asleep' is not of secondary origin, *meghá-* is an original deverbative.

+ *meṣá-* m. 'ram, sheep' < **mois-o-*. Lith. *maĩšas* (4) 'sack' points to the same accentuation (Illich-Svitych § 10), but Germ. **méisaz* (OIc. *meiss* 'basket'), if connected, points to barytonesis.

? *yakṣá-* n. 'apparition': nom.act. of *√yakṣ-* 'to display', IIr. **√iakš-* (Bailey 1958: 153f.). Further connections are uncertain.

+ *yamá-* m. 'twin' < **imH-o-*. This reconstruction is necessary in order to account for the vocalism of Latv. *jùmis* 'pair'. Also Lat. *geminus* 'twin' may contain zero-grade of the root, but OIr. *emon* 'id.' points to *e*-grade.

+ *vadhá-* m. '(violent) death': nom.act. of *√vadh^i-* 'to slay, kill', PIE **√ued^h(H)-*. Cf. also *vadhá-* nom.concr. 'murdering weapon'.

– *viṣá-* n. 'poison' < **uis-o-*. In view of Av. *viš-* 'id.', the Sanskrit word is most probably a recent thematicization of a root noun. The long root vowel in Gr. ῑ̓ός, OIr. *fí* 'id.', Lat. *vīrus* 'liquid' points to the same conclusion.

+ *vṛdhá-* m./n. 'strengthening, prosperity' (8,83,6; elsewhere *vṛdhá-* is a nom.ag. 'one who strengthens'): nom.act. of *√vṛdh-* 'to grow, strengthen', PIE **√uerd^h-*.

+ *śaphá-* m. 'hoof, claw' < **ḱopH-o-*. Germanic shows lengthened grade in the root (OIc. *hófr*, OHG *huof* 'id.', etc.).

– *śaśá-* (< **śasa-*) m. 'hare' < **ḱH_1-es-o-*. As I tried to demonstrate elsewhere, this word is a late thematicization of an *s*-stem adjective for 'grey', as follows from Lat. *cānus* 'grey', OE *hasu* 'grey, brown', etc. (Lubotsky forthcoming *a*). This adjective is most probably derived from the root **ḱeH_1-* 'to be grey', reflected in Skt. *śārá-* 'spotted, motley'. For more details I refer the reader to the afore-mentioned article.

+ *śāká-* m. 'power' (5,12,2, cf. Geldner ad loc.): nom.act. of *√śak-* 'to be able', PIE **√ḱek$^{(w)}$-*. Renou EVP XIII: 113 explains the meaning of *śāká-* 'helper, assistant' (5,30,10 and 6,19,4) from an original nom.act. too and compares it to *ūtí-* 'help, helper'.

– *śuná-* n. 'success, prosperity', *śunám* adv. 'happily' is a recent thematicization of a root noun, cf. Av. *spə̄n-ča aspə̄n-ča* (Y.45,9) 'Heil und Unheil', *spə̄n-vaṯ* (Y.51,21) 'heilkräftig'.

– *śyetá-* adj. 'white, reddish' is most probably reshaped from *śvetá-* 'id.' in order to conform to the anlaut of *śyāvá-* 'brown', *śyāmá-* 'black'.

– *savá-*$_1$ m. 'pressing out (of Soma)' or rather 'a Soma-offer': nom.act. of *√su-* 'to press out', PIE **√seu-*. This word occurs only with numerals *śatám* and *sahásram* and is most probably a compound in tmesis, cf. *sahasrasāvá-* 'thousand-fold Soma-offer' (Geldner ad 1,126,1).

+ *savá-*$_2$ m. 'setting in motion': nom.act. of √*sū-* 'to set in motion, urge', PIE *√*seuH*$_1$*-*. The colour of the laryngeal follows from Hitt. *šuu̯e-* '(ver)stoßen' (Oettinger 1979: 297 and fn.77).

- *samá-* adj. 'same' < **somH*$_2$*-o-* is derived from **sem-* 'one' (Beekes 1982-3: 202f. and fn.1).

- *sasá-* m.n. 'seed-field' < **sH*$_1$*-es-o-* is a thematicization of an *s*-stem derived from the PIE root **seH*$_1$*-* 'to sow' (Lubotsky forthcoming *a*; cf. also Eichner 1982: 26ff.). Hitt. *šeša-* is most probably a Hittite thematicization, cf. *šešd-* 'to thrive'.

+ *sādá-* m. 'riding' (1,162,17): nom.act. of √*sad-* 'to sit', PIE *√*sed-*.

- *sāyá-* n. 'evening' (8,2,20: *sāyám* 'in the evening'). Mayrhofer (s.v.): "nicht zufriedenstellend erklärt". Lühr (1978: 122f.) proposed to connect the word with Goth. *seiþu* (see s.v., § 4.5) < **seH*$_1$*i-*.

? *sāvá-* m. translation uncertain: 'pressing out (of Soma)' or 'setting in motion' (10,49,7): nom.act. of √*su-* 'to press out' or √*sū-* 'to urge'.

? *sr̥ká-* n. 'point, peak' < IIr. **srk-a-*. Connections outside IIr. are uncertain.

? *srāmá-* see s.v. *srā́m-a-*.

- *himá-* m. 'cold, frost' is a recent thematicization of a root noun, cf. Av. *zyå, zyås(-cit)*, gen. *zəmō* m. 'winter', Skt. *hímā* 'id.'.

The suffix *-ka-*

§ **2.52.** This suffix is very common in secondary derivation, but deverbatives are hardly attested. It is therefore probable that also those *ka*-derivatives which seem to be primary are in fact of denominal origin.

§ 2.53. THE EVIDENCE.

The following words from Grassmann's reverse index are omitted:

(1) For *sr̥ká-* see under the suffix *-a-*;

(2) Words with secondary *-ika-*: *usriká-*, *vŕ̥ścika-*, *śáṇḍika-*, *hlā́dika-*;

(3) Words of uncertain etymology: *niṣká-* m. 'a golden ornament for the neck', *śulká-* n. 'price, value', *stoká-* m. 'drop';

(4) Proper nouns: *kuśiká-*;

(5) Words derived from pronouns and numerals: *taká-*, *yaká-*, *saká-*; *dvaká-*, *triká-*.

Barytona

? *átka-* m. 'garment' < IIr. **Hatka-*, cf. Av. *aδka-* 'id.'. Further connections are uncertain.

- *śúṣka-* adj. 'dry': √*śuṣ-* 'to be dry' < *√*suṣ-*. As I tried to demonstrate elsewhere (Lubotsky 1985), this root derives from PIE *H_2*sus*-, which is not a verbal root but an adjective 'dry'. This adjective is most probably an original perfect participle of the root *H_2*es*- 'to be dry'. It appears then that *śúṣka*- is a denominal formation derived from the adjective **śuṣ*- and not from the Sanskrit verbal root √*śuṣ*-, which is of denominal origin too.

+ *ślóka*- m. 'noise, praise': √*śru*- 'to hear', PIE *√*ḱleu*-. The denominal origin of this word cannot be excluded, cf. *śrút*- 'hearing' in *śrútkarṇa*- adj. 'having hearing ears', *dīrghaśrút*- adj. 'famous', etc.

Oxytona

? *muṣká*- m. 'testicle' (10,38,5) < **musko*-. This word must be separated from the word for 'mouse' because of the laryngeal in the latter word (see also s.v. *muṣ-ṭí*-).

? *vṛkká*- m. 'kidney, kidney fat (?)' (1,187,10) < IIr. **uṛt-ka*-, cf. Av. *vərəδka*- m.du. 'kidneys'. The connection with the root *vṛt*- 'to turn', PIE *√*uert*- is possible, but the denominal origin of this word is more likely, cf. MPers. *gurtak* 'kidney' < **vṛt-a*- and Skt. °*vṛt*- 'turning'.

The suffix *-ga-*

§ 2.54. The only probable derivative in *-ga-* is *śṛṅgá*- n. 'horn', which must be of denominal origin in any case, as follows from Gr. κέρας n. 'id.' < *$\acute{k}erH_2$-*s*-, Skt. *śíras* n. 'head' < *$\acute{k}rH_2$-*es*-, etc.

The suffix *-ta-*

§ 2.55. The verbal adjectives in *-tá-* are always oxytone (the only exception is *júṣṭa*- beside *juṣṭá*- 9,44,2), but there are several adjectives and nouns not connected with a Sanskrit verbal root which show both accentuations. Among these the oxytone ones are doubtful because they might originally have been verbal adjectives.

§ 2.56. THE EVIDENCE.
The following words from Grassmann's reverse index are omitted:

(1) For *ánt-a*- see under the suffix *-a-*; *vā́ta*- does not contain a suffix *-ta-* (< *H_2ueH_1-*nt-o*-);

(2) Words in *-ita-*, which does not reflect *-*H̥-to*-: *ásita*-, *palitá*-, *róhita*-, *hárita*- (colour adjectives in *-it-o-*);

(3) Substantivized verbal adjectives: *kṛtá*-, *jātá*-, etc.; *caritá*-, *jīvitá*-, *raṇvitá*-, etc.;

(4) Non-existent _nákta-_ (= _nákt-_);
(5) Words of non-IE origin: _kartá-_ m. 'cavity, hole', _gárta-_ 'id.';
(6) Words of uncertain meaning and/or etymology: _kīstá-_ m. 'praiser, poet', _batá-_ '?' (10,10,13), _bastá-_ m. 'he-goat', _śíṣṭa-_ '?' (8,53,4), _śvāntá-_ '?', _sū́rta-_ '?' (10,82,4);
(7) _Lallwort_ _tatá-_ m. 'daddy';
(8) Compounds: _tvóta-_, _sūktá-_, _svìṣṭa-_;
(9) Numerals: _aṣṭá-_, _tritá-_, _dvitá-_, _śatá_.

Barytona

+ _ásta-_ n. 'home': √_nas-_ 'to approach, resort', PIE *√_nes-_, or √_as-_ 'to be', PIE *√H_1_es-_ (Collinder, Språkvetensk. Sällskapets i Uppsala Förhandlingar 1954: 10 (1952-4) 84f., which was inaccessible to me).

+ _éta-_ adj. 'shining, variegated' (f. _énī_, _énī́_), m. 'a kind of antelope' < *H_2_ei-to-_, if connected with PIE *√H_2_ei-_ 'to burn'.

+ _márta-_ m. 'man, mortal': √_mr̥-_ 'to die', PIE *√_mer-_. Av. _marəta-_ 'id.' points to oxytonesis (cf. § 1.20).

+ _vrā́ta-_ m. 'troop, swarm' < *_ure_H_1_-to-_. The connection with Germ. *_wrēþaz_ (OE _wrǣð_ 'troop, flock', ODan. _vrath_ 'herd of swine', etc.) seems convincing.

? _hásta-_ m. 'hand' < *_ǵ_^{h}_es-to-_. It is likely that _hásta-_ is a denominal formation. We find mostly an _r_-stem, cf. Hitt. _keššar_, Gr. _χείρ_ 'hand', etc. There is no evidence for an IE derivative in _-to-_. The only evidence for a suffix _-t-_ is Lith. _pa-žastìs_ 'armpit' (the etymology of Lat. _praestō_ is uncertain).

Oxytona

+ _r̥tá-_ adj. 'right, true', m. 'truth' < *H_2_r-to-_. Av. _aša-_ 'id.' points to IIr. *_Hárta-_.

+ _dūtá-_ m. 'messenger' < *_du_H_2_-to-_.

The suffix _-tra-_

§ 2.57. The distribution between barytona and oxytona in _-tra-_ is most probably determined by semantic criteria. Barytona are nomina instrumenti or loci, while oxytona are nomina abstracta, sometimes showing concrete meaning (AiGr. II,2: 701ff.). I present the whole material below. From Grassmann's index are omitted:
(1) Words containing the suffix _-atra-_: _dátra-_ and _kṣatrá-_;
(2) _putrá-_, for which see under the suffix _-ra-_;

(3) Denominative formations, based on nouns in *-tṛ-*: *jaítra-* adj. 'victorious', n. 'victory', *tvāṣṭrá-* adj. 'belonging to *Tváṣṭṛ-*', *neṣṭrá-* n. 'the function or the sacrificial vessel of the *néṣṭṛ-*', *potrá-* n. 'the function or sacrificial vessel of the *pótṛ-*', *bhrātrá-* n. 'brotherhood', *hotrá-* n. 'the function of *hotṛ́-*' (see also below);

(4) Demon's name *a(t)trá-*.

Barytone nomina instrumenti/loci:

á(t)tra- n. 'nourishment',
kṣétra- n. 'real estate',
kṣṇótra- n. 'whet-stone',
gā́tra- n. 'limb, body',
tántra- n. 'loom, warp of a web',
dáṁṣṭra- m. 'tusk, fang',
dā́tra- n. 'sickle',
pā́tra- n. 'receptacle, vessel',
mántra- m. 'speech, sacrificial formula',
yóktra- n. 'rope, cord',
vástra- n. 'dress',
śrótra- n. 'hearing, ear'.

Oxytone nomina abstracta:

dātrá- n. 'gift',
deṣṭrá- n. 'indication',
mitrá- n. 'contract', m. god Mitra,
yantrá- n. 'lock, tie' (< 'connection'),
rāṣṭrá- n. 'empire, kingdom',
vṛtrá- n. 'resistance', m. demon Vṛtra,
śāstrá- n. 'instruction',
śvātrá- n. 'strength',
stotrá- n. 'praise',
sthātrá- n. 'stand, place' (1,164,15),
hotrá- n. 'sacrifice'.

Words in *-tra-* derived from *seṭ*-roots are invariably accented on the *-í-*: *arítra-*, *khanítra-*, *carítra-*, *janítra-*, *pavítra-*, *bharítra-*, *bhavítra-*, *sanítra-*.

It follows then that derivatives with the suffix *-tra-* cannot be used for our investigation, as they did not preserve the original phonetic distribution.

The derivation of *úṣṭra-* m. 'buffalo, camel' (Av. *uštra-*) is uncertain, because the connection with the PIE root **ues-* 'to be wet' seems unwarranted.

The suffix *-tva-*

§ **2.58.** The suffix *-tva-* forms either barytone gerundives (*kártva-*, *ján(i)tva-*, *nántva-*, *snā́tva-*, etc.) or oxytone denominal abstracta (*garbhatvá-* 'pregnancy', *janitvá-* 'das Weibsein', etc.). Accordingly, the accentological evidence of this suffix is of no value for our investigation.

The suffix *-tha-*

§ **2.59.** Derivatives with this suffix are mostly oxytone neuters (as far as the gender can be determined) with abstract meaning: *ukthá-* 'sentence, praise', *gāthá-* 'song, verse', *tīrthá-* 'ford', *nīthá-* 'manner, melody', *pr̥ṣṭhá-* 'question' (4,2,11; 10,89,3, Thieme 1938: 65ff.), *bhr̥thá-* 'the bringing' (2,14,4), *yūthá-* 'herd', *rikthá-* 'inheritance' (*pakthá-* is NPr.). There are but two exceptions: *hátha-* 'blow', which shows the accentuation of the suffix *-átha-*, and *ártha-* 'aim, goal, thing' (= Av. *arəθa-*). The latter word may show the original accentuation, but I am reluctant to include it into the evidence, because its etymology is uncertain (cf. the doubts in AiGr. II,2: 719).

The *tha*-derivatives used *in fine compositi* are always oxytone, too: °*arthá-*, °*aṣṭhá-*, °*ithá-*, °*r̥thá-*, °*gathá-*, °*bhr̥thá-*.

The suffix *-na-*

§ **2.60.** The suffix *-na-* forms verbal adjectives from roots in laryngeal or unaspirated voiced stop (the only exception is *vr̥kná-* from √*vr̥śc-*) and, in this function, is analogous to the suffix *-tá-*, being, like *-tá-*, always oxytone. At the same time, a number of nouns and non-verbal adjectives are formed with this suffix, and the accentuation of these derivatives is unpredictable.

We encounter a classification problem with words in *-āna-*. AiGr. (II,2: 193f.), Whitney (1889: 426f.), Renou (1952: 152), et al. follow the tradition of Indian grammarians and analyze these words as containing the suffix *-ana-*. Since I could not find any justification for this analysis in the literature, I shall shortly recapitulate the points of correspondence between words in *-āna-* and derivatives with the suffix *-ana-*: 1) all barytona in *-āna-* are neuters, 2) these words are nomina actionis, which is untypical for derivatives in *-na-*, 3) words in *-āna-* retain barytonesis when used *in fine compositi*, 4) they remain neuters *in fine compositi* with preverbs and become adjectives *in fine compositi* with nominal first members, 5) they are oxytone *in fine compositi* with *su*°, *dus*° and *a*°.

It is therefore probable that barytona in *-ā́na-* contain the suffix *-ana-*. Here is the material:

jā́na- n. 'origin', rather, contains the suffix *-a-*, as **ǵ(e)nH₁-eno-* would yield *jánana-*, which is also attested;

°*jñā́na-* in *saṁjñā́na-* n. 'understanding' (10,19,4); a compound with *su*° is oxytone: *suvijñānā́-*;

dā́na- n. 'the act of giving, gift'; *dā́na-* m. 'given horse, bull' (3x) is "une adaption spontanée du nom d'action au rôle de nom concret, avec mobilisation de genre" (Renou 1957: 471); the *bahuvrīhi*-compounds *sádāna-* and *sahásradāna-* may contain *dānā́-₁* (see below);

°*dā́na- in nidā́na-* n. 'bind, connection', *saṁdā́na-* n. 'halter';

dhā́na- n. 'end (?)' (in 3,7,6 *pári dhā́nam aktóḥ*; Geldner ad loc. proposes haplology from **pári paridhā́nam*, Renou EVP XII: 117 assumes an "'expression abrégée pour **apidhā́nam* 'clôture (de la nuit)' "), °*dhā́na-* in compounds with preverbs: *apidhā́na-* n., *ādhā́na-* n., *nidhā́na-* n., *vidhā́na-* n. (with *āchádvidhāna-* and *ṣádvidhāna-*); in compounds with nominal first members: *agnidhā́na-* n(?). (< adj., the gender is unclear because the hapax reads loc.sg. *agnidhā́ne*) 'receptacle for the fire' (10,165, 3), *yātudhā́na-* m. (< adj.) 'sorcerer', *somadhā́na-* adj. 'containing Soma';

°*pā́na-* in compounds with preverbs: *avapā́na-* n., *paripā́na-* n.; in compounds with nominal first members: *indrapā́na-* adj. 'serving Indra as a beverage', *janapā́na-* adj. 'serving people as a beverage', and similarly *devapā́na-* adj., *nṛpā́ṇa-* adj., *vṛṣapā́ṇa-*; but oxytone in a compound with *su*°: *suprapāṇá-* adj. 'providing good drinking', n. 'good drinking';

mā́na-$_3$ n. 'measure', the accentuation of the *bahuvrīhi*-compound *bahulā́bhimāna-* is irrelevant, compounds with *a*° are oxytone: *animāná-* and *apratimāná-*;

yā́na- n. 'vessel, craft' (4,43,6), °*yā́na-* in compounds with preverbs *avayā́na-* n., *āyā́na-* n., *niyā́na-* n.; in a compound with nominal first member *devayā́na-* adj. 'serving the gods as a thoroughfare';

°*sā́na-* in compounds with preverbs: *avasā́na-* n. 'unharnessing, resting-place' (10,14,9);

sthā́na- n. 'dwelling-place'; °*sthā́na-* in a compound with a preverb: *adhisthā́na-* n., in a compound with nominal first member: *rayisthā́na-* adj. 'rich', compounds with *a*° and *su*° are oxytone: *anāsthāná-* and *suṣṭhāná-*;

°*sphā́na-* in a compound with nominal first member: *gayasphā́na-* adj. 'promoting domestic wealth'.

Accordingly, the barytona in *-ā́na-* (except *jā́na-*, for which see § 2.45) have been left out of consideration because they most probably contain the suffix *-ana-* and, as such, show the productive barytonesis of neuters in *-ana-* (cf. § 2.92). As far as oxytona in *-āna-* are concerned, we find only *uttāná-* 'stretched', which is the verbal adjective of √*tan*^{i}- (cf. Beekes 1985a), and masculina *dāná-*$_1$, *dāná-*$_2$. It seems reasonable to include the latter words in the evidence because there is no indication that they contain the suffix *-ana-*.

§ 2.61. THE EVIDENCE.

The following words from Grassmann's reverse index are omitted:

(1) Verbal adjectives (see above, § 2.60): *diná-*, *dīná-* (cf. Kuiper 1974: 127), *pūrṇá-*;

(2) Barytona in _-āna-_ (see above, § 2.60);

(3) For _śána-_ adj. 'gradual', _śuná-_ 'success, prosperity', _sána-_ adj. 'old' see under the suffix _-a-_;

(4) Words with secondary _-ina-_: _āśiná-_ adj. 'old' (1,27,13), _vṛjiná-_ adj. 'crooked';

(5) Non-existent _mathná-_ (= _mathrá-_, Geldner I 261 ad 1,181,5d);

(6) Words of non-IE origin: _bāṇá-_ m. 'reed-shaft, arrow';

(7) Words of uncertain meaning and/or etymology:

kāṇá- adj. 'one-eyed' (10,155,1),
kṣoṇá- '?' (1,117,8),
bhrūṇá- n. 'embryo' (10,155,2),
māná- m. '?' (10,144,5),
rāspiná- adj. 'sounding (?)',
vāṇá- m. 'voice, music',
śiśná- n. 'tail, penis',
sína- n. 'provision, supply',
stauná- '?' (6,66,5);

(8) Personal names: _álina-_, _mā́na-_$_1$;

(9) Compounds: _aminá-_, _nīcī́na-_;

(10) Denominative formations: _kanī́na-_ adj. 'young', _dróṇa-_ n. 'wooden vessel', _mahína-_ adj. 'great', _mā́kīna-_ adj. 'mine' (8,27,8), _mā́hina-_ adj. 'great', _mā́hīna-_ adj. 'great', _mā́na-_$_2$ m. 'house', _vanína-_ n. 'tree' (10,66,9), _vā́jina-_ n. 'strength', _śākiná-_ adj. 'strong' (8,33,6), _stráina-_ adj. 'concerning women'.

Barytona

+ _ánna-_ n. 'food': √_ad-_ 'to eat', PIE *√H_1ed-.

+ _árṇa-_ adj. 'undulating, surging', m.n. 'wave': √_ṛ-_ 'to move, arise', PIE *√H_3er-. Gr. ἔρνος 'branch' cannot be cognate for both formal and semantic reasons.

+ _áśna-_ adj. 'hungry, voracious': √_aś_^{i}- 'to eat, consume', PIE *√$H_1e\acute{k}(H)$-. For the interconsonantal laryngeal see Kuiper 1947: 206ff.

? _kárṇa-_ m. 'ear'. No certain etymology is known. The connection with Slav. *_černъ_ 'handle' < *$k^{w}er$-_no-_ (cf. Vasmer III 322 with older literature) seems the most plausible. The Slavic word has a mobile paradigm, which may reflect in masculine _o_-stems both IE oxytonesis and barytonesis (Illich-Svitych § 46).

+ _kṛ́ṣṇa-_ m. 'black antilope' (10,94,5). Cf. s.v. _kṛṣ-ṇá-_.

+ _tṛ́ṇa-_ n. 'grass, blade' < *_tr-no-_. Barytonesis is confirmed by Slav. *_tŕnъ_ (b) 'thorn, spike' (Illich-Svitych § 49).

? _dráviṇa-_ n. 'goods, property': √_drū-_ 'to cut, divide', IIr. *√_drauH-_ (Hoffmann 1975-6: 420f.). Further connections are unknown.

+ _phéna-_ m. 'foam' < *_(s)pHoi-no-_. The acute intonation in Lith. _spáinė_ 'foam on the waves' and Slav. *_(s)pě̃na_ 'foam' points to *_(s)poHi-n-_, while Skt. _ph-_ and Ir. *_f-_ (ModPers. _fīnak_ 'foam on the waves'; Oss. ir. _fynk_, dig.

finkæ 'foam' is ambiguous, because Oss. _f_ may continue Ir. *_p_) point to initial *_pH-_. This presupposes an original _n_-stem with ablaut in the root.

+ _várṇa-_ m. 'colour': √_vr̥-_ 'to cover', PIE *√_uel-_. According to Mayrhofer III 246, the Skt. root _vr̥-_ 'to cover, obstruct, prevent' is a combination of two IE roots: *_uer-_ and *_uel-_. I see, however, no evidence for an IE root *_uer-_ 'to obstruct, save; close' (Pok. 1160): Lith. _(už-)vérti_ 'to close', Slav. *_vȇ̄ti_ 'id.' point to the root *_uerH-_, while the cognates in other languages might have had a final laryngeal too. As the Skt. root _vr̥-_ is clearly _aniṭ_, it must be connected with PIE *_uel-_. Another argument in favour of Skt. √_vr̥-_ < *√_uel-_ is the _-l-_ in some derivatives from the Skt. root: _valá-_ 'cave', _úlva-_ 'caul, womb'.

+ _śúṣṇa-_ m. 'name of a demon': √_śvas-_ 'to blow, snort', PIE *√_ḱues-_. In spite of the fact that this word is a proper name, I believe we may use it, since Sanskrit names of demons are often personified nouns, cf. _vr̥trá-_ 'resistance', _valá-_ 'cave, cavern', etc. The accentuation of the noun is generally preserved. The original meaning of _śúṣṇa-_ was probably 'snorting, hissing', cf. Pashto _sū́ṇ_ m. 'id.'.

+ _śū́na-_ n. 'lack, absence' < *_ḱuH$_1$-no-_, probably from √_śū-_ 'to swell', PIE *√_ḱeuH$_1$-_. The word may also be a denominative formation if based on a heteroclitic _r/n_-stem.

+ _śóṇa-_ adj. 'red, crimson'. The cerebral _-ṇ-_ is probably secondary, *_śona-_ being a derivative of an unextended root *_(s)keu-_ which formed the basis of _śuc-_, _śubh-_ and _śu(n)dh-_. For s-mobile see s.v. _śubh-rí-_.

+ _śvítna-_ adj. 'whitish' (8,46,31): √_śvit-_ 'to be bright, white', PIE *√_ḱueit-_.

+ _svápna-_ m. 'sleep, dream': √_svap-_ 'to sleep', PIE *√_suep-_. The same accentuation is attested in Lith. _sāpnas_ (originally 2, Illich-Svitych § 9) 'dream'. Gr. ὕπνος 'sleep, dream' and Slav. *_sъ̀nъ_ 'sleep' (b) (cf. Kortlandt 1980a: 351) have zero-grade of the root but also point to barytonesis. Although the word is an original _r/n_-stem, its pervasive barytonesis seems to be significant.

Oxytona

+ _uṣṇá-_ adj. 'hot' (10,4,2): √_uṣ-_ 'to burn', PIE *√_H$_1$eus-_.

+ _r̥ṇá-_ adj. 'guilty', n. 'duty, debt' < *_H$_2$r-no-_ (AiGr. II,2: 733).

- _kr̥ṣṇá-_ adj. 'black' < *_k^{w}rs-no-_. Slav. *_čьrnъ_ (b) 'id.' points to barytonesis. In view of the Slavic barytonesis, it seems probable that the barytone variant of this word, _kŕ̥ṣ-ṇa-_ 'black antelope', shows the original accentuation, while the adjective conforms to the productive pattern.

+ _ghr̥ṇá-_ n. 'ardour, heat' < *_g^{wh}r-no-_. The same accentuation is attested in Slav. *_gъrnò_ (b) (Illich-Svitych § 49). For the gender of the Skt. word see Neisser 1924: 94f.

+ *dāná*-$_1$ m. 'the act of giving, gift': √*dā*- 'to give', PIE *√*deH*$_3$-. There is no evidence for the neuter gender of this word (as given by Mayrhofer s.v.), while the nom.sg. *dāná(ḥ)* (10,32,9) and the nom.pl. *dānā́ḥ* (8,4,8 and 8,64,9) point to masculine gender. The neuter *dāná*- 'rut-fluid flowing from an elephant's temples', assumed by Geldner for *dānā́* (8,33,8), is but one of many possibilities (cf. Oldenberg ad loc.).

+ *dāná*-$_2$ m. '(sacrificial) meal': √*dā*- 'to divide', PIE *√*deH*$_2$-.

+ *nagná*- adj. 'naked' < **nog*^{w}-*no*-. The same accentuation is attested in Gr. γυμνός which may be old in spite of the irregular changes in the anlaut.

? *parṇá*- n. 'wing, feather, leaf'. The problematic anlaut (cf. Gr. πτερόν, Lith. *spar̃nas*, etc.) makes the reconstruction of the PIE form uncertain (**tp*-?). The Lithuanian word points to oxytonesis (4 in Daukša, Illich-Svitych § 16).

+ *budhná*- m. 'bottom, ground' < **b*^{h}*ud*^{h}-*no*-.

? *bradhná*- adj. 'pale red, bay' < **b*^{h}*rod*^{h}-*no*- (?).

+ *yajñá*- m. 'worship, sacrifice': √*yaj*- 'to offer', PIE *√*ieH*$_2$*ǵ*-. For the reconstruction of the root see Lubotsky 1981. Gr. ἁγνός 'holy' shows the same accentuation.

+ *vasná*- n. 'price, value' (4,24,9) < **uos-no*-. Gr. ὦνος m. 'price' shows deviating accentuation.

− *śyená*- m. 'bird of prey' < **tḱie(H)i-no*- (?). The PIE form of this word is uncertain. For a possible PIE paradigm see Beekes 1985: 47f.

+ *śroṇá*- adj. 'lame' < **ḱlou-no*-.

+ *stená*- m. 'thief, robber': √*(s)tāy*- 'to hide', PIE *√*(s)teH*$_2$*(i)*-.

The suffix *-ma-*

§ 2.62. The suffix *-ma-* forms nomina agentis/adjectives and nomina actionis. The adjectives in *-ma-* are always oxytone: *jihmá*- 'athwart', *tigmá*- 'sharp, pointed, hot', *dasmá*- 'wonderful, extraordinary', *bhīmá*- 'frightful', *vāmá*- 'dear, fair, noble', *śagmá*- 'strong', *sidhmá*- 'successful' (1,33,13). This implies that these words have categorial oxytonesis, probably in analogy to adjectives in *-ta-*, *-na-*, *-ra-*, and cannot be used.

Nomina agentis and nomina actionis show both accentuations and are therefore included into the evidence.

§ 2.63. THE EVIDENCE.

The following words from Grassmann's reverse index are omitted:

(1) For adjectives in *-ma-* see § 2.62 above.

(2) For *grā́ma*-, *samá*-, *srā́ma*-, *srāmá*- and *himá*- see under the suffix *-a-*;

(3) Words of uncertain etymology: *grīṣmá-* m. 'midsummer', *bílma-* n. 'chip' (2,35,12), *bhā́ma*$_2$- m. 'anger, wrath', *yákṣma-* m. 'disease';
(4) Personal name *rúma-*;
(5) Compound *svidhmá-*;
(6) Depronominal formation *néma-*; a pronoun *imá-* does not exist (= *im-am*), for *simá-* see now Beekes 1982-3: 202f.

Barytona

+ *ájma-* m. 'march, passage': √*aj-* 'to drive', PIE *√H$_2$eǵ-. The same accentuation has Gr. ὄγμος 'passage, furrow'.
+ *ū́ma-* m. 'helper': √*av*^{i}- 'to be pleased, strive, protect', PIE *√H$_2$euH-.
+ *kā́ma-* m. 'wish, desire': √*kā-* 'to desire', PIE *√keH$_2$-.
+ *kṣéma-* m. 'rest, peace': √*kṣi-* 'to dwell', PIE *√tḱei-.
+ *bhā́ma*$_1$- m. 'light, splendour': √*bhā-* 'to shine', PIE *√b^{h}eH$_2$-.
+ *yā́ma-* m. 'course, vessel': √*yā-* 'to go, move', PIE *√H$_1$ieH$_2$-. This root is an enlargement of *√H$_1$ei- 'to go'.
+ *śúṣma-* m. 'crackling, hissing': √*śvas-* 'to blow, snort', PIE *√ḱues-.
+ *sárma-* m. 'moving, streaming' (1,80,5): √*sṛ-* 'to hurry on', PIE *√sel-, if connected with Gr. ἅλλομαι < *sl̥-i̯o-.
+ *sóma-* m. 'soma-plant, god Soma': √*su-* 'to press', PIE *√seu-.
+ *stóma-* m. 'praise': √*stu-* 'to praise', PIE *√steu-.

Oxytona

+ *idhmá-* m. 'fire-wood, fuel': √*idh-* 'to kindle', PIE *√H$_2$eid^h-.
+ *gharmá-* m. 'glow, heat' < *g^{wh}or-mo-. To the same accentuation points Gr. θερμός adj. 'warm'.
+ *darmá-* m. 'demolisher' (3,45,2): √*dṛ*$^{(i)}$- 'to burst, tear', PIE *√der(H)-.
+ *dhūmá-* m. 'smoke': √*dhū-* 'to shake, agitate', PIE *√d^{h}euH-. The same accentuation shows Gr. θυμός 'emotion, mood'. The Balto-Slavic barytonesis must be due to Hirt's Law.
+ *yudhmá-* m. 'fighter': √*yudh-* 'to fight', PIE *√i̯eud^h-.
+ *rāmá-* m.n. 'darkness' (10,3,3) < *HreH$_1$-mo-, if connected with OHG *rāmac* 'dirty', etc.
+ *rukmá-* m. 'ornament of gold': √*ruc-* 'to shine, be bright', PIE *√leuk-.

The suffix *-ya-*

§ 2.64. The suffix *-ya-* is one of the most productive suffixes of the Ṛgveda, predominantly forming denominatives. Gerunds in *-yā*, gerundiva and verbal abstracta are also of denominal origin and are always accented on the root (cf. AiGr. II,2: 782ff.).

Beside these productive categories, there are but five isolated adjectives in _-ya-_. I am reluctant to include these adjectives in the evidence because they are most probably of denominal origin too and show several difficulties:

anyá- 'other, different' has no certain etymology.

tucchyá- 'empty, vain' < *_tus(-)sk-yo-_ is derived from a verbal present stem and is therefore secondary.

návya- adj. 'new, young' < *_neuio-_ may have adopted the accentuation of _náva-_ 'id.'.

mádhya- adj. 'middle' < *_med_^{h}_io-_. Gr. μέ(σ)σος shows the same accentuation, but traces of oxytonesis are found, too. First of all, oxytonesis is attested in the adverb _madhyā́_ 'in the middle' and in the compound _madhyáṃ-dina-_ m. 'midday, noon'. Furthermore, to original oxytonesis point Lith. _medìnis_ adj. 'wooden', loc.sg. _medỹ_ 'in the wood' (cf. Illich-Svitych § 15) and OPr. neuter _median_ (Kortlandt 1983a: 183).

savyá- adj. 'left' < *_(H_1)seuio-_. An adjective with such a meaning is liable to taboo transformations. Moreover, it is reminiscent of other words for 'left', *_le_H_2_iuo-_/*_l_H_2_eiuo-_ and *_ske_H_2_iuo-_/*_sk_H_2_eiuo-_ and may be somehow connected with them.

It follows then that these adjectives are too uncertain to be used.

The suffix _-ra-_

§ **2.65.** Beside a few nouns, this suffix forms a large number of adjectives. These adjectives are practically always oxytone (40:4) so that we must consider the oxytonesis productive and regard the few exceptions as archaisms. The same holds true for the substantivized adjectives. The oxytone _-ra-_ adjectives are therefore left out of consideration.

For the sake of completeness I present below the list of oxytone _-ra-_ adjectives. Omitted are adjectives with uncertain etymology: _ādhrá-_ 'poor, destitute' (but cf. Forssman 1987), _(ś)candrá-_ 'shining', _tīvrá-_ 'strong, violent', _turá-_ 'sick', _dudhrá-_ 'impetuous', _badhirá-_ 'deaf', _mūrá-_ 'foolish', and _syandrá-_ 'driving'.

ārdrá- 'wet, moist',
iṣirá- 'refreshing, vigorous',
ugrá- 'powerful, mighty',
usrá- 'matitunal', m. 'bull',
ṛjrá- 'white',
kṣiprá- 'swift, quick',
kṣudrá- 'little, mean',
cirá- 'long',
ga(m)bhīrá- 'deep',
ghorá- 'dreadful, horrible',
chidrá- 'pierced' (1,162,20),
jīrá- 'active, quick',

tamrá- 'darkening (?)' (10,73,5),
turá- 'strong, powerful',
tṛprá- 'yeasting (?)' (8,2,5),
dabhrá- 'small, little',
dasrá- 'accomplishing wonderful deeds',
dūrá- 'far, distant',
dhvasrá- 'dusty',
namrá- 'bowing, bent',
pajrá- 'firm',
bhadrá- 'good, kind',
mandrá- 'pleasing',
miśrá- 'mixed, mingled',
radhrá- 'weary',
vāśrá- 'roaring, bleating',
vigrá- 'swift' (cf. the evidence),
śakrá- 'strong, mighty',
śukrá- 'bright, pure', n. 'light',
śubhrá- 'beautiful, brilliant',
sidhrá- 'successful',
sṛprá- 'fat',
sthirá- 'firm, hard, solid',
sthūrá- 'big, strong, large',
sphirá- 'fat',
hiṁsrá- 'injuring'.

§ 2.66. THE EVIDENCE.

The following words from Grassmann's reverse index are omitted:

(1) Oxytone adjectives in *-ra-* (see § 2.65);

(2) Words with secondary suffix *-ira-*: *ajirá-*, *dhvasirá-*, *madirá-*;

(3) Words of uncertain meaning and/or etymology: *kurī́ra-* n. 'a kind of head-dress for women' (10,85,8), *kṛchrá-* n. 'misery, distress', *khadirá-* m. 'name of a tree', *mathrá-* '?', *rāspirá-* '?' (5,43,14), *śīrá-* '?', *śūdrá-* m. 'man of the fourth caste', *sī́ra-* n. 'plough';

(4) Personal names: *áṅgira-*, *índra-*, *cítra-*, *túgra-*, *rudrá-*;

(5) Denominal formations: *gaurá-* adj. 'whitish, brilliant', m. 'Bos gaurus', *médhira-* adj. 'wise', *rathirá-* adj. 'belonging to the chariot', *sthā́vira-* adj. 'thick'.

Barytona

+ *ágra-* n. 'top, summit' < *H$_2$eg-ro-.

+ *ájra-* m. 'field, plain': √*aj-* 'to drive', PIE *√H$_2$eǵ-. Gr. ἀγρός 'id.' shows deviating accentuation.

+ *gṛ́dhra-* m. 'vulture': √*gṛdh-* 'to desire, be eager', PIE *√g$^{w(h)}$eld^h-.

+ *túmra-* adj. 'strong, big' < *tum-ro-.

+ *rándhra-* n. 'loin' (8,7,26) < *lend^h-ro- (Gotō 1985: 80).

– *dhī́ra-* adj. 'wise, clever': √*dhī-* 'to perceive, think', PIE *√d^{h}eiH$_2$-. More probably, however, this word is a denominal formation based on *dhī́-* f. 'thought, knowledge'.

+ *vájra-* m. '(Indra's) thunderbolt' < *ueH$_2$ǵ-ro- if connected with Gr. ἄγνυμι 'to slay' (cf. Lubotsky 1981) or < *H$_2$ueǵ-ro- if connected with Lat. *vegēre*.

? _vígra-_ adj. 'swift, quick' (1,4,4); _vigrám_ 'haste (?)' or an adverb 'swiftly, quickly' (6,67,7): _√vij-_ 'to heave, speed', PIE *_√ueig_^{w}-. It appears difficult to determine the original accentuation. The barytone form is a _lectio difficilior_ but is attested later than the oxytone one.

+ _vípra-_ adj. 'trembling, excited', m. 'poet, singer': _√vip-_ 'to tremble, be agitated', *_√ueip-_. This word is probably based on a _r/n_-stem, cf. _vipanyā́, vipanyú-_ 'begeistert'.

+ _śárīra-_ n. 'skeleton, body': _√śr̥̄-_ 'to smash, crush', PIE *_√ḱerH_$_{2}$-.

+ _śávīra-_ adj. 'powerful': _√śū-_ 'to swell', PIE *_√ḱeuH_$_{1}$-. Cf. the next word.

+ _śū́ra-_ m. 'hero, warrior': _√śū-_ 'to swell', PIE *_√ḱeuH_$_{1}$-.

+ _śvábhra-_ n. 'gap, hole' < *_(s)ḱueb_^{h}_-ro-_. Mayrhofer s.v. mentions only Iranian cognates (Pashto _sūrai_ '(loop)hole' < *_subra-ka-_, MPers. _suft_ 'durchbohrt', etc.), which lead to the IIr. reconstruction *_ćuab_^{h}_ra-_. In my opinion, this word can further be connected with the PIE root *_skeub_^{h}-/*_skueb_^{h}- 'dahinschießen (flink); schießen, werfen, schieben' (Pok. 955: Goth. _afskiuban_ 'to push away', OIc. _skūfa_, _skȳfa_ 'to push, shove', OCS _skubǫ_ 'zupfen, reißen', Lith. _skùbti_ 'to hurry', etc.). For the meaning cf. MPers. _suft_, ModPers. _suftan_ 'durchbohren'. Note that the root structure *_Te(R)D_^{h}- was impossible in PIE (cf. Benveniste 1935: 147f.), so that, at any rate, we must reconstruct the _s_-mobile for the Indo-Iranian root.

+ _sthávira-_ adj. 'broad, thick, old' < *_st(H)ouH-ro-_.

Oxytona

+ _akrá-_ m. 'horse': _√añc-_ 'to go', PIE *_√H_$_{2}$_enk-_ (Kuiper 1952: 43).

+ _abhrá-_ n. 'cloud' < *_nb_^{h}_-ro-_. Skt. _ámbha-_ n. 'water' < *_Hombho-_ /*_H_$_{3}$_emb_^{h}_o-_ must be separated from the IE word family for 'cloud, sky' for both formal (Gr. νέφος 'cloud' does not have an initial laryngeal, while Skt. _ámbha-_ and Gr. ὀμφά do) and semantic reasons (the meaning 'sky' is original).

? _kṣīrá-_ n. 'milk' < IIr. *_k_^{w}_šuī-ra-_ (Av. _xšvīra-_). Connections outside IIr. are unknown.

+ _kṣurá-_ m. 'razor' < *_k_^{w}_su-ro-_. The same accentuation is attested in Gr. ξυρόν 'id.' (cf. § 3.14 and fn.29).

+ _putrá-_ m. 'son, child' < *_put-lo-_. This word may also be analyzed *_pu-tlo-_, but the unambiguous material (Lat. _putus_ 'young boy', Osc. _puklum_ 'filium', Lith. _putýtis_ 'young bird, animal', OCS _pъtica_ 'bird') points to a root *_put-_. The often suggested connection with a long diphthong root *_pōu-_ (Pok. 842f.) is impossible in view of the short _u_ in Sanskrit.

+ _mr̥dhrá-_ n. 'neglecting, hostility': _√mr̥dh-_ 'to neglect, forsake', PIE *_√meld_^{h}-.

+ *riprá-* n. 'dirt': √*rip-* 'to smear, adhere', PIE *√*leip-*. The word can be a thematicization of an *r/n*-stem.

– *vamrá-* m. 'ant' is a taboo transformation of PIE **moruo-*, *-ī-* (cf. e.g. Av. *maoiri-*).

+ *vīrá-* m. 'man, hero' < **uiH-ro-*. Lith. *výras* (1), Latv. *vīrs* 'man, husband' show the retraction in accordance with Hirt's Law.

The suffix *-la-*

§ **2.67**. THE EVIDENCE.

The following words from Grassmann's index are omitted:

(1) Words of uncertain meaning and/or etymology: *syālá-* m. 'wife's brother' (1,109,2), *tílvila-* adj. 'fertile', *tṛdilá-* '?' (10,94,11);

(2) Denominal formations: *salilá-* n. 'sea, flood'.

Barytona

+ *śū́la-* m./n. 'pike' (1,162,11) < **ḱuH-lo-*.

The suffix *-va-*

§ **2.68**. This suffix is found in a number of adjectives and isolated nouns. Sometimes next to a *va*-derivative we find a word with the suffix *-van-*: *ṛkvá-*: *ṛkván-*, *ṛ́bhva-*: *ṛ́bhvan-*, *takvá-*: *tákvan-*, *vákva-*: *vákvan-*, etc. As the accentuation of these variants is not always identical, the forms in *-va-* are not likely to be secondary variants of derivatives in *-van-*.

When used as a first member of a compound, the adjectives *pū́rva-* and *víśva-* are oxytone (AiGr. II,1: 42), cf. *pūrvá-citti-*, *pūrvá-hūti-*; *viśvá-karma(n)-*, *viśvá-kṛṣṭi-*, etc. The origin of this accentuation is unknown.

§ **2.69**. THE EVIDENCE.

The following words from Grassmann's reverse index are omitted:

(1) Non-existent *tā́nva-*$_3$ 'ausgespannt' (= *tā́nva-*$_1$ 'belonging to one's own body');

(2) Words of uncertain etymology: *ṛ́bhva-* adj. 'skilful', *phā́riva-* '?' (10,106,8);

(3) Proper names *káṇva-*, *śyā́va-*;

(4) Compound *śraddhivá-*;

(5) Pronouns *avá-*, *yuvá-*.

Barytona

+ *áśva-* m. 'horse' < **H_1eḱ-uo-*. The barytonesis is confirmed by Germ. **éhwaz* 'id.' (OE *eoh*, OIc. *jór*) and Gr. ἵππος, which in spite of irregular phonetic development may have preserved the original accentuation.

? _úlba-_ (_úlva-_) n. 'caul' (10,51,1): √_vr̥-_ 'to cover', *√_uel-_. The unexpected vocalization in this word (instead of *_vr̥va-_) is probably due to the preserved _-l-_, cf. the same vocalization in _ulkā́_. Cf. also s.v. _ūr-vá-_.

+ _éva-_ adj. 'speedy', m. 'course, way': √_i-_ 'to go', PIE *√_H_1ei-_.

+ _pū́rva-_ adj. 'the first, prior' < *_prH-uo-_. The accentuation of Lith. _pìrmas_ (1) 'the first' is ambiguous because of Hirt's Law. Cf. also § 2.68.

+ _vákva-_ adj. 'turning': √_vañc-_ 'to move crookedly', PIE *√_uenk-_.

+ _víśva-_ adj. 'all, whole' < *_uiḱ-uo-_. Cf. also § 2.68.

+ _śéva-_ adj. 'dear, intimate' < *_ḱeiH-uo-_. The presence of a laryngeal follows from the sustained tone in Latv. _siẽva_ 'wife', which at the same time confirms the initial accentuation.

+ _sárva-_ adj. 'all' < *_sol-uo-_. The same accentuation is attested in Gr. ὅλος 'id.'.

? _srákva-_ m./n. 'mouth (?)' probably contains the same root as _sraktí-_ 'corner' and _sr̥ká-_ 'point, peak', going back to IIr. *_srak-va-_. Further connections are uncertain.

Oxytona

? _ūrdhvá-_ adj. 'erected, high' < *_H_3rd^h-uo-_. This seems to be the most plausible reconstruction, as it directly accounts for Av. _ərəδva-_, Gr. ὀρθός 'straight' (the initial digamma is far from certain, cf. Ruijgh 1967: 158, n.315) and probably for Lat. _arduus_ and OIr. _ard_ 'high'. For Sanskrit we must then assume a secondary change in anlaut.[22]

+ _ūrvá-_ m. 'dungeon, sea, ocean': √_vr̥-_ 'to cover, obstruct', PIE *√_uel-_ (for the root see s.v. _vár-ṇa-_). The anlaut is aberrant, but note that in Sanskrit the sequence _-r̥v-_ is attested only at a transparent morpheme boundary (cf. fn.24). One may also consider derivation from the root √_r̥-_ 'to move, arise', PIE √_H_3er-_, which in combination with preverbs shows the same range of meanings as √_r̥-_ (cf. s.v. _ūrdh-vá-_). Cf. also _úlba-_ (_úl-va-_).

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[22] This change is irregular, but there are more examples of _H_3RC-_ yielding a long resonant in Sanskrit, cf. _ū́rj-_, _ūrjā́_ 'nourishment, power' < *_H_3rǵ-_ if connected with Gr. ὀργή 'seelischer Trieb' (cf. Frisk s.v.), _ūrṇóti_ 'to cover, hide' < *_H_3r-_ if connected with _r̥ṇóti_ (AiGr. I 25). For *_H_3i-_ cf. Skt. _īṣā́_ 'pole' < *_$H_3$is-_ (cf. Hitt. ^{GIS}_ḫišša_ 'pole', Gr. οἰήιον 'Ruder', Av. _aēša-_ m. 'plough'). Note that H_3 was phonetically H_2^w (cf. Beekes forthc. _a_) and when the laryngeals merged into a glottal stop in Indo-Iranian, H_1 and H_2 became ʔ, while H_3 became $ʔ^w$. The feature 'labialization' was preserved up to the Indic period, which follows from the colouring of the syllabic _r̥_, cf. _gūrtí-_ f. 'approval, praise' < *_g^wrH-ti-_, etc. (Burrow 1957).

+ *r̥kvá-* adj. 'praising': √*r̥c-* 'to shine, praise', PIE *√H_1*erk*^{w}-.

+ *r̥ṣvá-* adj. 'high' < **H_3r̥s-uo-*.

+ *jīvá-* adj. 'living, alive': √*jī-* 'to impel, quicken', PIE **g*^{w}*e*H_3*i-*. For the position of the laryngeal see Kortlandt 1975: 3, 1981: 15. Latv. *dzîvs*, Lith. *gývas* (3), Slav. **žȋvъ*, *žīvà* (c) 'id.' point to the same accentuation.

+ *takvá-* adj. 'quick' (8,69,13): √*tak-* 'to rush along', PIE √*tek*^{w}-. The same accentuation is attested in Germ. **þegwáz* > **þewaz* (ON *þewaR* 'Lehnsmann', Goth. *þiwōs* nom.pl. 'slave', etc.).

+ *pakvá-* adj. 'cooked, baked, ripe': √*pac-* 'to cook', PIE *√*pek*^{w}-.

? *yahvá-* adj. 'young, youngest' < IIr. **Hiaź*^{h}*ua-*. For the reconstruction see s.v. *yah-ú-*.

? *raṇvá-* adj. 'delightful, combative': √*raṇ-* 'to rejoice, be pleased', IIr. *√*ran-*. The IE etymology of the root is uncertain. The root of *raṇvá-* may represent either full or zero grade.

? *śivá-* adj. 'kind, auspicious', m. 'Śiva, a name of Rudra'. The connection with *śéva-* (cf. Mayrhofer s.v.) seems impossible because the root of the latter word contains a laryngeal, so that we would expect a long root vowel in *śivá-*.

+ *śyāvá-* adj. 'dark-brown' < **ḱie*H_1*-uo-*. The accentuation of Lith. *šývas* (1) 'greyish' and Slav. **sȋvъ* (a) 'id.' may be due to Hirt's Law and is therefore ambiguous.

The suffix *-sa-*

§ **2.70.** It seems that PIE had no suffix *-so-*. The words in *-so-* (Sanskrit *-sa-*) are either thematicizations of *s*-stems or are derived from verbal stems in *-s-*: *s*-aorists, desideratives, etc. Accordingly, even the words included in the evidence must be used with caution, as they are hardly old in spite of the fact that their late origin can often not be demonstrated.

§ **2.71.** THE EVIDENCE.

The following words from Grassmann's reverse index are omitted:

(1) For *ŕ̥kṣa-*, *áṁsa-* see under the suffix *-a-*;

(2) Non-existent words: *śīrṣá-* (= *śīrṣán-*);

(3) Nonce forms: **néṣa-* in *néṣatama-* (1,141,12 *sá no neṣat néṣatamaiḥ*, AiGr. II,2: 598) and *bhariṣá-* (4,40,2 *sátvā bhariṣó gaviṣáh*, Mayrhofer s.v.).

(4) Words of non-IE origin: *kílbiṣa-* n. 'impurity';

(5) Words of uncertain meaning and/or etymology: *r̥jīṣá-* adj. 'smooth, slippery', *parṣá-* m. 'sheaf, bundle' (10,48,7), *purīṣá-* n. 'source, spring (?)', *lakṣá-* 'stake' (2,12,4), *vr̥kṣá-* m. 'tree';

(6) Personal name *kútsa-*;

(7) Compound *gaviṣá-*;

(8) Denominative formations *útsa-* m. 'spring, fountain' (cf. Gr. ὕδος n. 'water'), *taviṣá-* adj. 'strong' (cf. Av. *təviš-* n. 'rudeness'), *mahiṣá-* m. 'buffalo' (cf. Mayrhofer s.v.), *māṁsá-* n. 'flesh, meat' (cf. *mā́s* 'id.'), *mā́sa-* m. 'moon' (cf. *mā́s-* 'id.'), *vatsá-* m. 'calf' (cf. Gr. ἔτος n. 'year').

Barytona

? *kákṣa-* m. 'Gebüsch, Gestrüpp, Strauchwerk' (Hoffmann 1975-6: 192) < **(s)koǵ^h-so-*, if connected with OHG *hag* 'Hecke', etc. We must reconstruct the *s*-mobile because the root structure **TeD^h-* is impossible in PIE (Benveniste 1935: 147f.).

+ *gŕ̥tsa-* adj. 'dexterous, clever': √*gr̥dh-* 'to desire, be eager', PIE *√*g$^{w(h)}$eld^h-*.

? *dákṣa-* adj. 'able, capable, efficient', m. 'capability': √*daś-* 'to serve, oblige', PIE *√*deḱ-*. This word is most probably derived from an *s*-stem, cf. Lat. *decus* n. 'ornament', OIr. *dech* 'the best'. The verb *dákṣati* is of denominal origin.

Oxytona

+ *jeṣá-* m. 'victory': √*ji-* 'to win, conquer', PIE *√*g^{w}ei-*.

+ *drapsá-*$_1$ m. 'drop' < **d^{h}reb^h-so-*.

+ *drapsá-*$_2$ m. 'flag, banner' (4,13,2) < **drepso-*.

+ *pakṣá-* m. 'wing, side' < **peH$_2$ǵ-so-* (for the reconstruction of the root see Lubotsky 1981). This word is probably due to the thematicization of an *s*-stem, cf. *pā́jas* n. 'frame'.

+ *bhakṣá-* m. 'food, drink': √*bhaj-* 'to distribute', PIE *√*b^{h}eH$_2$ǵ-* (for the reconstruction of the root see Lubotsky 1981). The verb *bhakṣáyati* is most probably a denominative from *bhakṣá-* (cf. Mayrhofer s.v.).

? *rukṣá-* adj. 'brilliant (?)' (6,3,7): √*ruc-* 'to shine', PIE *√*leuk-*. The meaning of the word is uncertain.

Evaluation of the *a*-stems

§ 2.72. In contradistinction to the *i*- and *u*-stems, the *a*-stems were not affected by the laryngeal accent shift (cf. §§ 2.30ff.). Whereas *i*-stems and *u*-stems derived from roots with a final or internal laryngeal are predominantly oxytone, the *a*-stems do not show any tendency to oxytonesis, cf. *kā́-ma-*, *pū́r-va-*, *śárī-ra-*, *śávī-ra-*, *śū́-na-*, etc.

§ 2.73.

CATEGORY 1. Roots without stops.

Barytona: (+) *áṁs-a-*, *náv-a-*, *mál-a-*, *yáv-a-*, *vár-a-*$_1$, *vā́r-a-*, *sán-a-*, *srā́m-a-*; *ás-ta-*, *é-ta-*, *már-ta-*, *vrā́-ta-*; *án-na-*, *ár-ṇa-*, *vár-ṇa-*; *ū́-ma-*, *yā́-ma-*, *sár-ma-*, *só-ma-*; *é-va-*, *sár-va-*;
(?) *úlba-* (*úl-va-*);
Oxytona: (+) *meṣ-á-*, *yam-á-*, *sav-á-*$_2$; *r̥-tá-*; *uṣ-ṇá-*, *r̥-ṇá-*, *vas-ná-*; *rā-má-*; *vī-rá-*; *r̥ṣ-vá-*;
(?) *ām-á-*, *ār-á-*, *sāy-á-*, *sāv-á-*, *srām-á-*; *muṣ-ká-*; *ūr-vá-*, *raṇ-vá-*.

The distribution clearly depends on the ablaut grade of the root. Words with full grade of the root are barytone (20:4); words with zero-grade of the root are oxytone (6:1). I cannot explain the exceptions (*ū́-ma-*; *meṣ-á-*, *sav-á-*$_2$, *vas-ná-*, and *rā-má-*), but note that the cognates of *meṣ-á-* (OIc. *meiss*) and *vas-ná-* (Gr. *ὦνος*) point to barytonesis.

This distribution makes it probable that *ás-ta-* is derived from the root √*as-* and contains the full grade of the root.

CATEGORY 2. One-stop roots without an initial laryngeal.

A. Derivatives with a contiguous stop.

Barytona: (+) *vŕ̥k-a-*, *śám-a-*, *stán-a-*; *kŕ̥ṣ-ṇa-*, *tŕ̥-ṇa-*, *phé-na-*, *śúṣ-ṇa-*, *śū́-na-*, *śó-ṇa-*, *sváp-na-*; *kā́-ma-*, *kṣé-ma-*, *bhā́-ma-*$_1$, *śúṣ-ma-*, *stó-ma-*; *túm-ra-*, *víp-ra-*, *śárī-ra-*, *śávī-ra-*, *śū́-ra-*, *sthávi-ra-*; *śū́-la-*; *pū́r-va-*, *vák-va-*, *viś-va-*, *śé-va-*;
(?) *phā́l-a-*, *bál-a-*, *múkh-a-*, *śán-a-*; *hás-ta-*; *kár-ṇa-*; *víg-ra-*; *srák-va-*;
Oxytona: (+) *ghan-á-*, *bhār-á-*, *bhiy-á-*, *bhr̥m-á-*, *vadh-á-*, *vr̥dh-á-*, *sād-á-*; *dū-tá-*; *ghr̥-ṇá-*, *dā-ná-*$_1$, *dā-ná-*$_2$, *nag-ná-*, *yaj-ñá-*, *ste-ná-*; *ghar-má-*, *dar-má-*, *dhū-má-*, *yudh-má-*, *ruk-má-*; *abh-rá-*, *mr̥dh-rá-*, *rip-rá-*; *jī-vá-*; *je-ṣá-*;
(?) *jav-á-*, *dās-á-*, *magh-á-*, *mr̥g-á-*, *yakṣ-á-*, *sr̥k-á-*; *vr̥k-ká-*; *par-ṇá-*; *śi-vá-*; *ruk-ṣá-*

In contradistinction to the previous category, the ablaut grade of the root does not play any role here. We find 12 oxytone words with full grade in the root (vs. 14 barytone) and 12 barytone words with zero-grade in the root (vs. 12 oxytone).

It hardly seems open to doubt that the distribution of Category 2A depends on the type of the stop. Words with tenues (T) in the root are barytone (25:3), while words with mediae (D) and mediae aspiratae (D^h) in the root are oxytone (9:0 and 12:1 respectively).

Exceptions are: *bhā́-ma-*, *ste-ná-*, *ruk-má-*, *rip-rá-*. The latter two words may be of denominal origin. For *rip-rá-* cf. s.v., for *ruk-má-* cf. Meillet 1900: 297.

The initial *s-* (*stó-ma-*, *sthávi-ra-*), *s*-mobile (*śó-ṇa-*, *phé-na-*), and the cluster of two tenues (*kṣé-ma-*, *stán-a-*) do not afflict the accentuation.

Just as with the *i*-stems and *u*-stems (cf. fn.14), the laryngeals do not seem to block the structural contiguity of the stops to the syllabic nucleus. Accordingly, the words *jī-vá-*, *yaj-ñá-*, *sthávi-ra-*, *phé-na-* are treated here, sub A.

The established distribution makes it probable that the word *váj-ra-*, which has two competing etymologies (**ueH₂ǵ-ro-* and **H₂uéǵ-ro-*), belongs to Category 3A.

B. Derivatives with a non-contiguous stop.

Barytona: (+) *grā́m-a-*; *śló-ka-*; *rándh-ra-*;
(?) *drávi-ṇa-*;
Oxytona: (+) *dhruv-á-*; *śro-ṇá-*; *kṣu-rá-*; *śyā-vá-*;
(?) *mark-á-*; *kṣī-rá-*.

The material of this category is rather limited. The accentual distribution may depend on the ablaut grade of the root. Words with zero-grade in the root are oxytone (2:0), but amongst the words with full grade of the root are two oxytona, *śro-ṇá-* and *śyā-vá-*.

Category 3. One-stop roots with an initial laryngeal.

A. Derivatives with a contiguous stop.

Barytona: (+) *ṛ́kṣ-a-*; *áś-na-*; *áj-ma-*; *ág-ra-*, *áj-ra-*, *váj-ra-*; *áś-va-*;
(?) *át-ka-*;
Oxytona: (+) *aj-á-*$_2$; *idh-má-*; *ak-rá-*; *ṛk-vá-*;
(?) *agh-á-*, *nakh-á-*; *ūrdh-vá-*, *yah-vá-*.

In this category too, the ablaut grade of the root seems to be the conditioning factor. Words with full grade in the root are barytone (6:1); those with zero-grade are oxytone (3:1). The only exceptions are *ṛ́kṣ-a-* and *aj-á-*. On *váj-ra-* cf. sub 2A.

B. Derivatives with a non-contiguous stop.

Barytona: (+) *ánt-a-*, *árbh-a-*;
Oxytona: (+) *ardh-á-*, *megh-á-*;
(?) *andh-á-*;

The material is too scant to permit drawing any conclusion, but the comparison with the *i*- and *u*-stems shows that the contiguity of the laryngeal may play a role in this category. If the laryngeal is contiguous to the syllabic nucleus, the word is barytone. Otherwise, the word is oxytone. The word *ardh-á-* is an exception.

CATEGORY 4. Two-stop roots.

A. Derivatives with two contiguous stops.

Barytona: (+) *śā́p-a-*; *gṛ́dh-ra-*; *gṛ́t-sa-*;
(?) *kū́p-a-*; *kák-ṣa-*, *dák-ṣa-*;
Oxytona: (+) *gṛbh-á-*, *gṛh-á-*, *dīrgh-á-*, *pad-á-*, *bādh-á-*, *bhāg-á-*, *bhūrj-á-*, *śaph-á-*, *śāk-á-*; *budh-ná-*; *put-rá-*; *tak-vá-*, *pak-vá-*; *pak-ṣá-*, *bhak-ṣá-*.

It is evident that the ablaut grade of the root has no bearing upon the accentuation: We find accented zero-grades (*gṛ́dh-ra-*, *gṛ́t-sa-*) and unaccented full grades (*pad-á-*, *bādh-á-*, *bhāg-á-*, etc.). In order to investigate the possible influence of the stops on the accentuation, we must rearrange the material.

T...T Barytona: (+) *śā́p-a-*;
(?) *kū́p-a-*;
Oxytona: (+) *śaph-á-*, *śāk-á-*; *put-rá-*; *tak-vá-*, *pak-vá-*.

Oxytonesis of this group is probable (5:1). The only exception, *śā́p-a-*, may be a deverbative nomen actionis in which case it shows the productive barytonesis (see s.v.).

(s)T...D Oxytona: (+) *pad-á-*; *pak-ṣá-*.

Oxytonesis is probable here too (2:0).

(s)T...D^h Barytona: (?) *kák-ṣa-*;
D...T Barytona: (?) *dák-ṣa-*;
D...D^h Barytona: (+) *gṛ́dh-ra-*; *gṛ́t-sa-*;
Oxytona: (+) *dīrgh-á-*;
D^h...D Oxytona: (+) *bhāg-á-*, *bhūrj-á-*; *bhak-ṣá-*;
D^h...D^h Oxytona: (+) *gṛbh-á-*, *gṛh-á-*, *bādh-á-*; *budh-ná-*.

The material of these groups taken separately is insufficient to establish a distribution, but if we assume that the accentual impact of D and D^h is identical (cf. Category 2A and § 2.34 on the evaluation of *i*- and *u*-stems), we can put the material of the latter three groups together. The oxytonesis of this united group $D^{(h)}$...$D^{(h)}$ then becomes probable (8:2).

B. Derivatives with one contiguous stop.

Barytona: (+) *gárbh-a-*; *śvít-na-*; *śvábh-ra-*;
Oxytona: (+) *grābh-á-*, *tyāg-á-*; *drap-sá-*$_1$, *drap-sá-*$_2$;
(?) *kumbh-á-*, *gandh-á-*, *tok-á-*; *bradh-ná-*.

The material is insufficient to establish a distribution.

Summary

§ **2.74.** The material for the *a*-stems shows that in several categories the ablaut grade of the root is the conditioning factor. This is the case in Category 1 (roots without stops), Category 2B (roots with one non-contiguous stop without an initial laryngeal) and Category 3A (roots with one contiguous stop and an initial laryngeal).

In other categories, however, the ablaut grade of the root does not play any role. The accentual distribution there depends on the type of stop. In Category 2A (roots with one contiguous stop without an initial laryngeal), words with T in the root are barytone, while words with D or D^{h} in the root are oxytone. In Category 4A (roots with two contiguous stops), words with T...T and D^{h}...D^{h} roots are oxytone. The material of the other categories is insufficient to establish a distribution.

We see a striking similarity between the accentual distribution of the *a*-stems, on the one hand, and the *i*-stems and *u*-stems, on the other. Where the stops have no impact on the accentuation, the ablaut of the root is the conditioning factor in both *a*-stems and *i*-/*u*-stems. The only difference concerns the categories where stops influenced the accentuation. In *a*-stems, T yields barytonesis and D/D^{h} yield oxytonesis; in *i*-stems and *u*-stems the situation is reversed. In Category 4A (Two-stop roots with two contiguous stops), D$^{(h)}$...D$^{(h)}$ shows oxytonesis both in *a*-stems and *i*-/*u*-stems. The other categories are less certain.

It is also important that D and D^{h} yield the same accentuation both in the *a*-stems and in the *i*-stems and *u*-stems.

The laryngeal stems

§ **2.75.** There are but two pure laryngeal stems in the Ṛgveda: *pánthā-* 'way, road' and *mánthā-* 'twirling-stick'. These two barytona are certainly insufficient to establish a distribution. The other stems in a laryngeal are the *ī*-, *ū*- and *ā*-stems.

The *ī*- and *ū*-stems

§ **2.76.** The *ī*-stems show the following accentual distribution (cf. AiGr. II,2: 422):

- Words with the so-called *vṛkī́*-flexion, both feminina and masculina (e.g. *rathī́-* 'charioteer'), are always oxytone, cf. *ahī́-* 'pregnant woman', *dūtī́-* 'female messenger', *nadī́-* 'river', *naptī́-* 'grand-daughter', *starī́-* 'barren cow', etc.
- Words with the *devī́*-flexion are barytone. They form the feminine gender of adjectives, even with change of accentuation (cf. *áruṣī-* 'red, reddish' vs. *aruṣá-*; *énī-* 'of variegated colour' vs. *éta-*; *róhiṇī-* 'reddish' vs. *róhita-*; *śyénī-* 'white' vs. *śyetá-*; *háriṇī-* 'fallow' vs. *hárita-*, etc.), and abstracta (cf. *śácī-* 'might', *śámī-* 'work', etc.). The only exceptions to the barytonesis are several names of females and feminines of adjectives which retain the accentuation of the original word, cf. *devī́-* 'goddess' vs. *devá-*; *vāmī́-* f. 'dear, pleasant' vs. *vāmá-*, *pāpī́-* f. 'bad, wicked' vs. *pāpá-*, etc.

The *ū*-stems are always oxytone (AiGr. II,2: 491), cf. *camū́-* 'vessel', *tanū́-* 'body', *vadhū́-* 'young wife', *śvaśrū́-* 'mother-in-law', etc.

Accordingly, the accentological distribution of the *ī-* and *ū*-stems is determined morphologically and cannot be used for our purpose.

THE *ā*-STEMS

§ 2.77. The *ā*-stems are rather scanty in the Ṛgveda. I shall treat the evidence of all suffixes together, but first we must discuss the accentological peculiarities of several suffixes.

§ 2.78. *The suffix -ā-.* The Sanskrit suffix *-ā-* has never become so productive as its cognates in Greek, Latin or Balto-Slavic. Except for the feminine forms of adjectives, the suffix *-ā-* was productive only in verbal abstracta from secondary verbal stems: desiderativa (*jigīṣā́* 'desire of obtaining', *°bhikṣā́* 'begging') and denominativa (*apasyā́* 'activity', *aviṣyā́* 'desire, ardour', *gavyā́* 'desire for cows', *tvāyā́* 'love towards thee', etc.). In these verbal abstracta the suffix *-ā-* is always accented.

Verbal abstracta in *-ā́-* from primary stems, which are frequent in Greek (cf. § 3.19), are scarce in Sanskrit. They are attested in AV. and later (cf. AiGr. II,2: 245f.), but already the Ṛgvedic words *jarā́* 'old age',[23] *pavā́* 'purification' (9,97,52.53) and *manā́*$_2$ 'devotion, zeal' most probably contain this suffix and show productive oxytonesis.

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[23] *jarā́* 'old age' was usually assumed to be secondarily formed to *jarás-* 'id.' (see § 2.82 ad 11 about denominal *ā*-stems) because the acc.sg. *jarā́m* was held to have been the only attested form (AiGr. II,2: 225; III: 283f.). However, *jarā́* (10,32,5) and *jarā́ye* (1,38,13) do not mean 'a song', as given by Grassmann s.v., but belong to our word (cf. the translations of Geldner and Renou). If this is correct, the hypothesis about the secondary origin of *jarā́* cannot be maintained.

Names of females (the so-called "Motionsfeminina") with the suffix *-ā-* are also rare. In RV we find only three words: *ajā́* 'she-goat', *áśvā* 'merry', and *sūryā́* 'the wife of Sūrya'. The former two words follow the accentuation of the original masculine, while the latter shows the usual accentuation of the suffix *-yā́-* (see below, § 2.81).

Words with the suffix *-ā-* are barytone *in fine compositi* with *su°* and *dus°*: *°hánā* (cf., however, Narten 1982: 140f., who proposes to analyze the compound *durháṇā* as dissimilated from **durhŕ̥ṇā* 'schlimmer Zorn'), *°śúnā* in *ducchúnā-* 'misfortune, evil deed'.

The suffix *-ā-* is often used in denominative function forming *ā*-stems from consonant stems and root nouns, mostly with the same accentuation. Examples are given below, in § 2.82 ad 11.

§ 2.79. *The suffixes -thā- and -trā-.* Derivatives with the suffixes *-thā-* (*gā́thā*, *nī́thā*) and *-trā-* (*áṣṭrā*, *mā́trā*, *hótrā*) are always barytone and consequently cannot be used.

§ 2.80. *The suffix -nā-.* The suffix *-nā-* shows pervasive barytonesis. Barytone are *ū́rṇā* 'wool', *tŕ̥ṣṇā* 'thirst', *dhénā* 'voice, speech; female, milch cow', *ménā* 'concubine' (< 'Ersatz, Tausch', cf. Hoffmann 1975-6: 114f.), *sénā* 'army; arrow, missile', and *sthū́ṇā* 'post, pillar' (with secondary cerebralization). Oxytone are only *sūnā́* of uncertain etymology and *dhānā́ḥ* (pl. tant., see below), the etymon of which is unknown. It therefore seems certain that the suffix *-nā-* has productive barytonesis and thus cannot be used.

§ 2.81. *The suffix -yā-.* The suffix *-yā-* is always denominal. It forms nominal abstracta, which are generally accented on the suffix (AiGr. II,2: 840f.), and oxytone verbal abstracta of denominal origin (ibid., 832f.).

§ 2.82. THE EVIDENCE.

The following words from Grassmann's reverse index are omitted:

(1) "Motionsfeminina" (cf. § 2.78 above): *ajā́* (8,59,15), *áśvā*, *sūryā́*;

(2) Verbal abstracta with the suffix *-ā́-*: *jarā́*, *pavā́*, *manā́*$_2$ (cf. § 2.78 above);

(3) Barytona with the suffix *-nā-* (cf. § 2.80 above);

(4) Words formed with the suffixes *-trā-*, *-thā-*, and *-yā-* (cf. §§ 2.79, 81 above);

(5) Non-existent words: *aktā́* (part.f. from √*añj-*), *guhā́* (= *gúh-*), *ghr̥ṇā́* (= *ghr̥ṇá-*), *tánā* (= *tána-*, cf. Renou EVP XII: 124), *nā́sā* (= *nā́s-*), *śayā́*

(3,55,4 *śayásu* = fem. of adj. 'ruhend', Geldner ad loc.), *śásā* (= *śás-* or *śása-*, Geldner ad loc., AiGr. II,2: 247);

(6) Words of non-IE origin: *sirā́* 'stream (?)' (1,121,11), *sīrā́* 'stream, river';

(7) Words of uncertain meaning and/or etymology:

írā 'refreshment' (5,83,4) (= *íḷā*?),
ukhā́ 'vessel, boiler',
káśā 'whip',
kā́pā '?' (10,40,3),
kā́ṣṭhā 'race-course; limit, goal',
kṛ́tā '?' (2,35,5),
kṣvíṅkā 'a kind of animal' (10,87,7),
gáldā '?' (8,1,12),
dāmā́ '?' (8,72,6),
dhā́rā 'flood, gush, jet',
dhiṣā́ (2x instr.sg. = *dhíṣ-*?),
mákṣā 'fly' (= *mákṣ-* 'id.'),
rākā́ '(goddess of) full moon',
śíprā du.pl. 'moustache, plume of a helmet',
śmaśā́ '?' (10,105,1),
sáṅkā 'fight, encounter' (6,75,5),
sī́tā 'furrow',
sūnā́ 'wicker-work basket',
stúkā 'tuft of wool, hair',
staulā́ '?' (6,44,7);

(8) Proper names: *kúbhā* 'a tributary of the Ganges', *gaṅgā* 'the river Ganges', river names *ghóṣā, śíphā;*

(9) Onomatopoeic words and *Lallwörter*: *ambā* 'mother' (only the voc. *amba*), *nanā́* 'id.' (9,112,3), *píṅgā* 'a musical instrument' (8,69,9);

(10) Compounds: *āśā́, aidhā́, godhā́, nidrā́, nidhā́, prajā́, pramā́, śraddhā́, sabhā́, svadhā́, svā́hā;*

(11) Denominal formations:

from root nouns:

íḷā 'refreshment' ~ *íḍ-*,
kṣapā́ 'night' (4,53,7 instr.pl.) ~ *kṣáp-*,
kṣípā 'finger' (9,97,57 instr. pl.) ~ *kṣíp-*,
nāvā́ 'ship' (1,97,8) ~ *náu-*,
nídā 'contempt' (6,12,6) ~ *níd-*,
vánā 'piece of wood' (3,1,13) ~ *ván-*,
vṛtā́ 'way' (5,48,2) ~ *vṛ́t-* (cf. below),
sámā 'summer' ~ Av. *ham-*,
hímā 'winter' ~ Av. *zim-*;

from *n*-stems:

úrā- 'ram' ~ *úran-*,
kanyā̀-, gen.sg. *kanā́yās* 'young girl' ~ *kanyán-* (AiGr. III: 112f.),
yóṣā 'young woman' ~ *yóṣan-*;

from *s*-stems:

uṣā́m acc.sg. to nom.sg. *uṣā́s*,
for *jarā́-* see note 23;

from *ū*-stems:

apvā́ 'a name of a disease' (Kuiper 1942: 176, n.4),
jihvā́ 'tongue' ~ Av. *hizū-*;

(12) Words formed from secondary verbal stems: *vená-* 'wish, desire' (Schmid 1965).

Barytona

+ *ámīvā* 'disease, pain': $\sqrt{am^{i}}$- 'to press', PIE $^*\sqrt{H_3emH_3}$-.
+ *ā́rā* 'awl' < $^*H_1e/oH_1l\text{-}eH_2$-. The root of OIc. *alr* 'id.' may reflect $^*H_1\mathring{H}_1l$-.
- *khédā* 'pressing, heavy burden' must be a recent formation because the *-e-* is a secondary full grade to the zero-grade √*khid-*, where *i* < $^*\mathring{H}$ (cf. Mayrhofer s.v. *khidáti*).
- *gúdā* 'intestines' (10,163,3 *gúdābhias*) can hardly be an old word, as its root structure with two mediae was impossible in PIE.
+ *jáṅghā* 'shank' < $^*\acute{g}^{h}e/ong^{(w)h}\text{-}eH_2$-.
- *dúghā* 'milch cow'. As this word occurs in late hymns only (10,67,6 and *Vālakhilya* 8,50,3), it is probably a fem. of °*dugha-* (AiGr. II,2: 260).

? *dū́rvā* 'a type of millet'. The connection with Lith. *dirvà* (2,4) 'field' is uncertain because Lith. points to **dr̥-uo-* without a laryngeal.[24]

? *śā́khā* 'branch'. The Skt. form has probably arisen from the paradigm nom.sg. $^*\acute{k}ok^{(w)}\text{-}eH_2$, gen.sg. $^*\acute{k}ok^{(w)}\text{-}H_2\text{-}os$.

? *súrā* 'a spirituous liquor' < IIr. **suraH*. The etymology is uncertain. One may consider a connection with Lith. *sulà* 'sap, wine from birch or maple', which would confirm the barytonesis (Illich-Svitych § 4), or a derivation from the verb √*su-* 'to press (out)' (cf. Mayrhofer s.v.).

+ *stíyā* 'still, stagnant water': √*styā-* 'to coagulate, harden'. If Gr. στέαρ 'fat' is connected (< *στῆι̯αρ with *metathesis quantitatis*, Frisk s.v.), we must reconstruct the PIE root as $^*\sqrt{steH_2\text{-}i}$-. This stem then is an *i*-enlargement of the root for 'to stand'.

Oxytona

+ *īṣā́* 'pole of a chariot' < $^*H_3i(H)s\text{-}eH_2$-. For the reconstruction cf. s.v. *ūrdh-vá-*.
+ *ulkā́* 'meteor' < $^*ulk\text{-}eH_2$- if connected with Lat. *Volcānus* (for the vocalization see s.v. *úl-ba-* = *úl-va-*).
+ *kalā́* 'small part, a sixteenth part' (8,47,17) < $^*(s)kolH\text{-}eH_2$-. The

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[24] I wonder, however, if Skt. *dū́rva-* could be a phonetically regular development of **dr̥-uo-*. The combination *-r̥v-* is not attested in Vedic Sanskrit except at transparent morpheme boundaries, cf. *bhrā́tr̥-vya-* 'brother's son, nephew', perfect participles *mamr̥-vā́ṁs-*, *sasr̥-vā́ṁs-*, etc. It is therefore possible that the original *-*r̥v-* developed to *-ūrv-*. Cf. also s.v. *ūr-vá-*.

laryngeal in the root *√*(s)kelH-* follows from the acute in Balto-Slavic (Lith. *kálti* 'to forge', SCr. *klȁti* 'to slaughter').

+ *grīvā́* 'neck' < *_$g^{w}riH$-ueH_$_2$-. The barytonesis in Balto-Slavic (Latv. *grĩva* 'estuary', SCr. *grȉva* 'mane') is due to Hirt's Law (Illich-Svitych §§ 30, 63).

+ *chāyā́* 'shadow' < *_skeH_$_1$_i-eH_$_2$-. Gr. σκιά shows the same accentuation.

+ *doṣā́* 'evening, night, darkness' < *_deus-eH_$_2$- if connected with Gr. δείελος 'evening(-)'.

+ *dhānā́* pl. tant. 'grain' < *$d^{h}oHneH_2$- or *$d^{h}eH_3neH_2$-. Toch. B *tāno* 'id.' < PT *_tḤnā-_ may point to an ablauting H_2-stem. The barytonesis attested in Latv. *duõna* 'piece of bread' and Lith. *dúona* (1) 'bread' is due to Hirt's Law (Illich-Svitych § 30).

+ *manā́*$_1$ 'jewelry' (8,78,2) < *_mon(H)-eH_$_2$- or *_mn(H)-eH_$_2$-.

– *rasā́* 'liquid, stream' < *_Hros-eH_$_2$-. In view of *rás-a-* and Lat. *rōs* 'dow', *rasā́* must be derived from a root noun. Geldner takes it as a river name.

? *vaśā́* 'cow' < *_uoḱ-eH_$_2$- if connected with Lat. *vacca* 'id.'. For Latin we then must assume a development *_uo-_ > *ua-* and a secondary geminate.

– *vṛtā́* 'tour, circuit' (5,48,2) is an "élargissement du nom-racine *vṛ́t-*, évolué sémantiquement de manière différente" (Renou EVP IV: 76). The form *vṛtā́bhyaḥ* (10,30,7) given by Grassmann sub *vṛtā́* is fem. of a verbal adjective in *-ta-* from the root √*vṛ-* (cf. the translations by Geldner and Renou).

– *hasrā́* 'courtesan' is fem. of the adjective *_hasrá-_ 'laughing' with productive oxytonesis.

Evaluation of the laryngeal stems

§ **2.83.** The accentuation of the *ī*- and *ū*-stems shows morphological distribution and cannot therefore be used for our investigation.

The *ā*-stems are rare in Sanskrit and often show a productive type of accentuation (cf. §§ 2.77ff.). There are only about ten *ā*-stems which seem to preserve the original accentuation, which is insufficient to find a distribution. The only positive result is that the *ā*-stems were probably not affected by the laryngeal accent shift (cf. §§ 2.30ff.), cf. *ámīvā*, *ā́rā*, *stíyā*. Also when arranging the *ā*-stems according to their root structure, we hardly find any accentological tendencies, cf.

Category 1 (roots without stops):
 Barytona: *ámīvā*, *ā́rā*, ?*súrā*,
 Oxytona: *iṣā́*, *manā́*$_1$;

Category 2A (one-stop roots with a contiguous stop):
Barytona: *stíyā*, ?*dū́rvā*;
Oxytona: *ulkā́*, *kalā́*, *chāyā́*, *doṣā́*, *dhānā́*, ?*vaśā́*;
Category 2B (one-stop roots with a non-contiguous stop):
Oxytonon: *grīvā́*,
Category 4A (two-stop roots with two contiguous stops):
Barytonon: ?*śā́khā*,
Category 4B (two-stop roots with one contiguous stop):
Barytonon: *jáṅghā*.

The only conclusion we can draw is that the accentuation in Category 1 may depend on the ablaut grade of the root, if *manā́* shows zero grade of the root.

THE *r*- AND *n*-STEMS

THE *r*-STEMS

The suffix *-ar-*

§ **2.84.** Neuters in *-ar-* form the nom.-acc. of the heteroclitic *r*/*n*-stems and are always barytone (cf. § 2.70). The oblique cases of *vádhar-* 'weapon' are not attested. There is only one neuter *r*-stem: nom. *svàr*, gen. *sū́raḥ* 'sun', which has replaced an Indo-Iranian *r*/*n*-stem (cf. GAv. nom.sg. *hvarə*, gen.sg. *x*^{v}*ə̄ng*).

§ **2.85.** THE EVIDENCE.
From Grassmann's reverse index I have omitted only the neuters, which are always barytone.

Barytona

+ *vásr̥-* m. 'morning' (1,120,12 loc.sg. *básri* = *vásri*): √*vas-* 'to shine', PIE *$\sqrt{H_2 ues}$-. Cf. s.v. *us-ŕ̥-*.
+ *svásr̥-* f. 'sister' < **sues-r-*. The barytonesis is confirmed by Gr. ἔορ (Hes.), Lith. *sesuõ* (AP 2 in OLith., Illich-Svitych § 24) and Slavic **sestrà*, *-ò* (b) (Illich-Svitych § 59).

Oxytona

+ *usŕ̥-* f.m. 'dawn': √*vas-* 'to shine', PIE *$\sqrt{H_2 ues}$-. Cf. s.v. *vás-r̥-*.
+ *devŕ̥-* m. 'husband's brother' < *$deH_2 i$-*ur-*. The oxytonesis is confirmed by Gr. δᾱήρ 'id.'. Balto-Slavic shows barytonesis: Latv. *dìẽveris*,

Lith. *dieverìs* (AP 1 in Žemaitian), SCr. *djȅvēr*, Sln. *dẹ́ver* 'id.' (Illich-Svitych §§ 30, 63). This accentuation must be due to Hirt's Law, which points to the position of the laryngeal before the *-i-*. The word probably contained the suffix *-ur-* because otherwise we would have a sequence of three resonants in the root, which was not admitted in PIE.

The suffix *-tar-*

§ **2.86.** *Nomina agentis.* The suffix *-tar-* forms barytone and oxytone nomina agentis. The difference in accentuation is correlated with a difference in rection and meaning. Barytona are construed with an accusative and have substantival meaning, whereas oxytona govern the genitive and are used in participial function.

The most plausible explanation of these differences was given by Beekes (1972: 51f.), who suggested a morphological distribution: root accentuation was limited to the nominative, while the oblique cases were oxytone.

If this is correct (as I think it is), the accentual distribution of the suffix *-tar-* is determined morphologically and cannot be used for our purposes.

§ **2.87.** *The kinship terms.* THE EVIDENCE.

Barytona

+ *bhrā́tr̥-* m. 'brother' < *b^hreH_2-tr-. We find the same accentuation in Gr. φρᾱ́τηρ 'member of a phratry' and Germ. **brṓþr-* 'brother' (Goth. *brōþar*, OHG *bruoder*, etc.). The barytonesis attested in Slav. **brȃtrъ* (a) 'id.' (SCr. *brȁt*, Sln. *bràt*, etc.) is ambiguous because it may reflect the retraction in accordance with Hirt's Law.

Oxytona

+ *duhitŕ̥-* f. 'daughter' < *d^hugH_2-tr-. The oxytonesis is also attested in Balto-Slavic: Lith. *duktė̃* (3b), Slav. **dъktì*, acc.sg. *dъ̏kterь* (c) 'id.' (Illich-Svitych §§ 24, 59). On the other hand, Greek shows a mobile accentual paradigm: nom.sg. θυγάτηρ (< *θύγατηρ), acc.sg. θυγατέρα, gen.sg. θυγατρός. Cf. also s.v. *mā-tŕ̥-*.

+ *pitŕ̥-* m. 'father' < *pH_2-tr-. Oxytone are also Gr. πατήρ and Germ. *fadér-* 'id.' (Goth. *fadar*, OHG *fater*, etc.).

+ *mātŕ̥-* f. 'mother' < *meH_2-tr-. The oxytonesis is attested in Germanic (OS *mōdar*, OE *mōdor*, OHG *muoter* 'id.', etc.), whereas Greek has a mobile paradigm: nom.sg. μήτηρ, acc.sg. μητέρα, gen.sg. μητρός. Balto-Slavic barytonesis is ambiguous because of Hirt's Law. Cf. s.v. *duhi-tŕ̥-*.

THE *n*-STEMS

The suffix *-an-*

§ **2.88.** *Neuters.* The suffix *-an-* is attested only in the oblique cases of the neuters, the nominative and accusative singular being suppletive. From an accentological point of view, we must distinguish two classes: words with root-stress in the oblique cases and words with desinential accent in the oblique cases. The nom.-acc. is always barytone.

1. To the first class only belong a number of *r*/*n*-heteroclitics:

nom. *áhaḥ*,	gen. *áhnaḥ* 'day',
nom. *ū́dhaḥ*,	gen. *ū́dhnaḥ* 'udder',
nom. *ū́dhaḥ* (?),	loc. *ū́dhani* 'coldness',
nom. *dhánuḥ*,	gen. *dhánvanaḥ* 'bow' (cf. Hoffmann 1975-6: 330ff.),
nom. *páruḥ*,	gen. *párvaṇaḥ* 'joint, knot' (cf. Hoffmann 1975-6: 330ff.).

This class also differs from the other *r*/*n*-stems in the form of the nom.-acc. *-(a)r* vs. *-r̥t* or *-r̥k*. The final *-r* merged with the reflex of the final *-s* (*-ḥ*), which led to the development of parallel *s*-stems: *áhas-*, *ū́dhas-*, *dhánus-*, *párus-*. It is not quite clear, to which extent this ending is due to the accentuation. Cf. also Schindler 1975: 8, n.7.

2. The second class, i.e. the class with a barytone nom.-acc. sg. and desinential accent in the oblique cases, can be subdivided into three types:

2.1. *r*/*n*-stems:

nom. *ásr̥k* (1,164,4),	[gen. *asnáḥ* AV+] 'blood',
[nom. *yákr̥t* AV+],	gen. *yaknáḥ* 'liver',
[nom. Gr. ὕδωρ],	gen. *udnáḥ* 'water',
[nom. Av. *rāzarə*],	loc. *rājáni* (10,49,4) 'guidance',
nom. *śákr̥t*,	[gen. *śaknáḥ* AV+] 'dung'.

2.2. *i*/*n*-stems:

[nom. *ásthi* AV+],	instr.pl. *asthábhiḥ* (1,84,13) 'bone',
nom. *sákthi* (10,86,67),	nom.pl. *sakthā́ni* (5,61,3) 'thigh',
[nom. *dádhi* TS+],	gen. *dadhnáḥ* 'curd'.

The *i*/*n*-stems were shown by Beekes 1987 to be original root nouns in a laryngeal which were inflected as *n*-stems in the oblique cases. They are therefore genetically identical with type 2.3. For *ákṣi* (9,9,4), gen. *akṣṇáḥ* 'eye' see sub 2.3.

2.3. *s/sn*-stems:

nom. *śíraḥ*	gen. *śīrṣṇáḥ* 'head',
nom.du. *ákṣī*	gen. *akṣṇáḥ* 'eye'.

The nom.sg. *ákṣi* (9,9,4) is most probably a parallel formation to the dual forms. Several root nouns in *-s* also form their oblique cases as *n*-stems:

nom. *ā́ḥ*,	gen. *āsnáḥ* 'mouth',
nom. *dóḥ* (5,61,5)	[gen. *doṣṇáḥ* ŚBr.] 'arm',
nom. *yū́ḥ*	gen. *yūṣṇáḥ* (1,162,13) 'soup'.

The distribution of the two accentual classes is not clear, but it seems hardly open to doubt that this distribution is morphologically determined and has nothing to do with the phonetic properties of the root.[25]

§ **2.89.** *Non-neuters.* THE EVIDENCE.

The following words from Grassmann's reverse index are omitted:

(1) Non-existent words: *áśan-* (= *aśman-*), *krāṇán-* (= *krāṇā́-*), *mahán-* (= *mahimán-*);

(2) Infinitive *dhū́rvaṇe* (9,61,30);

(3) Words of uncertain meaning and/or etymology: *śūṣán-* (10,93,1 *śūṣáṇi*), *śmaśán-* (10,105,1);

(4) Compounds *víbhvan-*, *vibhván-*;

(5) Denominal formations: *naktán-* f. 'night' (7,104,18 *naktábhiḥ*, cf. Mayrhofer s.v. *nákt-*), *pratidī́van-* 'adversary at play' (10,34,6, cf. *dī́v-* 'playing with dice', AiGr. II,2: 176), *yúvan-* adj. 'young', m. 'youth' (< *_H$_2$iu-Hon-_, cf. Hoffmann 1975-6: 382), *yóṣaṇ-* f. 'young woman', *rā́jan-* m. 'king';

(6) Numerals *dáśan-*, *návan-*, *páñcan-*, *sáptan-*.

Barytona

+ *úran-* m. 'ram' < *_urH$_1$-en-_. The colour of the laryngeal follows from Greek compounds such as πολύ-ρρηνʹ 'possessing many rams' < *_-u̯rH$_1$-n-_. For the Ṛgvedic forms cf. Hoffmann 1975-6: 356.

– *tákṣan-* m. 'carpenter' (9,112,1): √*takṣ-* 'to cut, fashion', PIE *√_tetḱ-_. The form of the root suggests reduplication, which may explain the variety of the attested forms. Gr. τέχνη and Hitt. *takšan* may go back to the unreduplicated root *_teḱ-_ with a suffix (enlargement?) *-s-*. Gr. τέκτων confirms the barytonesis of our word.

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[25] The only other neuter *n*-stem, *kṣā́man-* 'earth' is secondarily derived from the original *m*-stem and inflected as if it contained the suffix *-man-*.

+ _vṛ́ṣan-_ m. 'man, male', adj. 'manly, vigourous': √_vṛṣ-_ 'to rain', PIE √_H_1uers-_.
+ _śván-_, gen.sg. _śúnaḥ_ m. 'dog' < *_ḱu-on-_. The Greek word for 'dog' (nom. sg. κύων, acc. κύνα, gen. κυνός, etc.) shows the productive accentual pattern of root-nouns (cf. Vendryes 1938: 219).

Oxytona

+ _ukṣán-_ m. 'bull': √_ukṣ-_ 'to grow', PIE *√_H_2ueg-s-_. For the etymology see Kiehnle 1979: 59ff.
- _pūṣán-_ m. 'god Pūṣan'. As I have suggested elsewhere (1985: fn.4), the word _pūṣán-_ is probably a secondary _n_-stem based on *_pūṣ-_ < *_pH_2-us-_, the perfect participle of √_pā-_ 'to protect' < *_peH_2-_.
+ _majján-_ m. 'marrow, pith' < *_mesg^h-en-_. The _n_-stem is most probably secondary.
+ _mūrdhán-_ m. 'top, head' < *_mlH_3d^h-en-_. The _n_-stem is most probably secondary.

The suffix _-man-_

§ **2.90.** The accentual distribution of the suffix _-man-_ is determined morphologically. Neuters are barytone (e.g., _kárman-_ 'action', _ján(i)man-_ 'birth', _nā́man-_ 'name', _hóman-_ 'sacrifice', etc.), adjectives and masculines are mostly oxytone (e.g., _omán-_ 'favour', _jarimán-_ 'age', _dāmán-_ 'portion', _hemán-_ 'impulse', etc.).

There are hardly any exceptions to this distribution: we find only _áśman-_ m. 'stone, rock', _óman-_ m. 'helper' (5,43,13), and _bhásman-_ adj. 'chewing' (10,115,2; cf. Mayrhofer s.v.). These exceptions may indicate that neuters were always barytone, which is normal for the consonant stems, whereas masculina could originally have either accentuation.

Evaluation of the _r_- and _n_-stems

§ **2.91.** The material of the _r_- and _n_-stems is too scant to allow us to arrive at a distribution, but two conclusions can be drawn.

- Firstly, these stems were not affected by the Indo-Iranian laryngeal accent shift (cf. §§ 2.30ff.), as can be seen from the barytonesis of _úran-_ and _bhrā́tṛ-_.

- Secondly, the accentual distribution based on the ablaut of the root, which was found in Category 1 (roots without stops) and Category 2A (one-stop roots with a non-contiguous stop) of the _i_-, _u_- and _a_-stems, does not seem to apply to the _n_-stems, cf. _úran-_, _vṛ́ṣan-_, but _majján-_; _ukṣán-_ is oxytone, as expected. On the other hand, the *r*-stems do show this accentual distribution, cf. barytone *vásṛ-* and *svásṛ-* vs. oxytone *usṛ́-*; for *mātṛ́-* see below.

As far as the kinship terms in *-tṛ-* are concerned, the situation is rather complicated. The word for 'brother' is consistently barytone, the word for 'father' is consistently oxytone, whereas the words for 'mother' and 'daughter' are ambiguous: they have a mobile accentual paradigm in Greek, but are oxytone in Sanskrit (and in Germanic and Balto-Slavic respectively). It therefore seems evident that the latter two words had influenced each other. If we take ablaut considerations into account (cf. Beekes 1985: 174ff.), we may assume that the word for 'mother' was originally barytone (and had static inflection), while the word for 'daughter' was originally oxytone. The oxytonesis of Skt. *mātṛ́-* must be due to the words for 'father' and 'daughter', *pitṛ́-* and *duhitṛ́-*.

APPENDIX. THE SUFFIX *-ana-*

§ **2.92.** In the preceding analysis of the Sanskrit evidence I have used only monosyllabic suffixes (see § 2.4). In the following I present the material of the suffix *-ana-*, which may provide some additional information.

The suffix *-ana-* forms both nomina agentis and nomina actionis. The neuters are generally barytone (45x, including neuters in *-ána-*, cf. § 2.60), paroxytone are *vṛjána-* (6x masc., see Geldner ad 1,165,15; 1,48,5 *vṛ́jana-*), *daṁsána-* (1,166,13 next to 15x f. *daṁsánā* and 2x *daṁsánāvat*), and *kṛpáṇa-* (10,99,9: "dunkles Lied", Oldenberg ad loc.); *pāyánāya* (1,116,9) is an infinitive. Grassmann's *veṣáṇa-* n. must be changed to *veṣáṇā* f. (*veṣáṇā* 4,33,2 is Instr.f.).

There is only one oxytone neuter, viz. *rocaná-* 'luminous sphere, firmament', which is a substantivized adjective *rocaná-* (AV+) 'bright, luminous' (cf. *śaraṇá-* adj. 'protecting', *śaraṇá-* n. 'roof, protection'). The gender of *rocaná-* is due to other words for heavenly spheres: *rájas-* n. 'Luftraum', *antárikṣa-* 'id.', *vyòman-* 'heaven', etc. Other oxytone neuters do not exist (*rodhaná-* 2,13,10 = nom.pl.m. *rodhanā́ḥ*; *pravaṇá-* = *pra-vaṇá-*).

Feminina in *-anā-* are usually paroxytone: *arháṇā*, *uśánā*, *daṁsánā*, *dohánā*, *barháṇā*, *bhandánā*, *maṁhánā*, *mehánā*, *vakṣáṇā*, *vadhánā*, *vanánā*, *veṣáṇā* (*jaráṇā*, *dhiṣáṇā*, *manánā*, *mandánā* are uncertain; *kanyánā*, *yoṣáṇā* and the only two barytona *yóṣaṇā* and *pṛ́tanā* are derived from *n*-stems). The rule, given in AiGr. II,2: 190, viz. that the feminina in *-anā-* are "fast immer oxyton", cannot be maintained. We find only four oxytona: *asanā́* 'missile' (I^2, X^1), *jaraṇā́* 'old age' (X^2, VII^1, cf. also *jaráṇā* 1,121,6; 1,141,7), *śvetanā́* semi-infinitive 'pour éclarer' (Renou EVP IV: 27), *hasanā́* 'laughter' (Anhang 9,112,4). The etymology of two other oxytona, *kapanā́* 'caterpillar' and *raśanā́* 'rope, cord', is uncertain.

On the other hand, the adjectives and the masculine nouns show both barytonesis and oxytonesis. Paroxytonesis is very rare: we find only *kiráṇa-* m. 'ray of light' and *manána-* adj. 'reflecting' (9,70,3; the hapax is *manánā(ḥ)*, so that one can think of the feminine pl., cf. Geldner ad loc.); *dohána-* does not exist (= *dohánā*), while *mandána-* (9,107,26), and *sakṣáṇa-* (5,41,4) are uncertain (cf. Geldner ad loc.).

The distribution of barytonesis and oxytonesis in the adjectives (masculine nouns are always a product of substantivization) has not yet been established. Kuryłowicz's assertion (1952: 101) that the adjectives in *-ana-* are oxytone is simply incorrect.

As the *ana*-derivatives are always barytone *in fine compositi*, we can only use simplicia. The feminine adjectives usually follow the accentuation of the masculine and neuter, but there are exceptions (*dyótana-* vs. *dyotanā́*), so that we must be cautious when an adjective is attested only in the feminine form.

Words with zero-grade of the root tend toward paroxytonesis, cf. *kiráṇa-*, *kr̥páṇa-*, *vr̥jána-*.

§ 2.93. The evidence.

From Grassmann's reverse index are omitted:

(1) The neuters, which show productive barytonesis (see § 2.92 above);

(2) Non-existent words: *sámana-* adj. (= *sámana-* n.), *turáṇa-* adj. (1,121,5 *turáṇe* is an infinitive, based on an *n*-stem);

(3) Words of non-IE origin: *odaná-* 'rice-dish';

(4) Words of uncertain meaning and/or etymology: *áraṇa-* adj. 'distant, foreign' (deadverbial, if connected with OLat. *ollus*), *kravaṇá-* adj. '?' (5,44,9), *pr̥śaná-* (3x *pr̥śanī́* f.) 'tender, gentle' or 'courtesan, seduction', *sāmaná-* (3,30,9; 10,85,11) '?' (cf. Mayrhofer s.v.), *sváraṇa-* '?' (1,18,1);

(5) Personal names: *úraṇa-*, *pūṣaṇá-*, *vándana-*, *spandaná-* (for Grassmann's *syandaná-*);

(6) Compound *śū́raṇa-* = *śū́ra-raṇa-*;

(7) Onomatopoeic *krośaná-* (the root *kruś-*);

(8) Reduplicated *pibdaná-*;

(9) Denominal *ahaná-* (or a compound, if, with Bergaigne, = *a-haná-*).

Barytona

? *kṣóbhaṇa-* m. 'mutineer': √*kṣubh-* 'to move, tremble', IIr. *√$k^{(w)}$*šaub*^{h}-. The Indo-European etymology is uncertain.

+ *cétana-* adj. 'visible': *√cit-* 'to perceive, observe', PIE **√(s)keit-*.
+ *cyávana-* adj. 'shaking': *√cyu-* 'to move', PIE **√k^{w}ieu-*.
+ *jánana-* m. 'creator' (2,40,1): *√jan^{i}-* 'to beget, generate', PIE **√ǵenH_1-*.
? *jávana-* adj. 'hastening': *√jū-* 'to hurry', IIr. **√źauH-*. Further connections are uncertain.
+ *tápana-* adj. 'torturing': *√tap-* 'to heat', PIE **√tep-*.
+ *tárhaṇa-* adj. 'crushing' (7,104,4): *√(s)tṛh-* 'to crush', PIE **√sterǵ^{h}-*. For the etymology of the root see Eichner 1982: 17ff. (~ Hitt. *ištarnink-*).
+ *dyótana-* adj. 'bright': *√dyut-* 'to shine', PIE **√dieu-t-*. The fem. *dyotanī́* (1,123,4) is oxytone.
+ *péśana-* adj. 'beautiful' (10,1,6): *√piś-* 'to hew out, adorn', PIE **√peiḱ-*.
+ *bándhana-* adj. 'binding' (5,12,4): *√bandh-* 'to bind', PIE **√b^{h}end^{h}-*.
+ *mā́dana-* adj. 'delighting': *√mad-* to be glad', PIE **√meH_2d-*. For the reconstruction of the root see Lubotsky 1981.
+ *méhana-* m. 'penis' (10,173,5): *√mih-* 'to urinate', PIE **√H_3meig^{h}-*.
+ *vákṣaṇa-* adj. 'strengthening' (10,64,9): *√vakṣ-* 'to grow', PIE **√H_2ueg-s-*. The hapax is a feminine in *-ī*.
+ *várdhana-* adj. 'strengthening', m. 'invigorator': *√vṛdh-* to increase, strengthen', PIE **√uerd^{h}-*.
? *śā́sana-* adj. 'teaching' (1,31,11): *√śās-* 'to control, instruct', IIr. **√ćaHs-*. Further connections are uncertain. The RV. hapax is a feminine in *-ī*.
? *śnáthana-* adj. 'piercing' (2,21,4): *√śnath-* 'to pierce', IIr. **√ćnatH-*. Further connections are uncertain.
+ *sádana-* adj. 'asking to sit down' (1,186,11): *√sad-* 'to sit', PIE **√ sed-*. The RV. hapax is a feminine in *-ī*.
? *sā́dhana-* adj. 'promoting', m. 'promoter': *√sādh-* 'to succeed, prosper', IIr. **√saHd^{h}-*. Further connections are uncertain.
+ *sū́dana-* m. 'leader' (4,39,5): *√svād-* 'to make sweet', PIE **√sueH_2d-*.
+ *svā́dana-* m. 'making tasty' (5,7,6): *√svād-* 'to make sweet', PIE **√sueH_2d-*.

Oxytona

+ *karaṇá-* m. 'workmaster' (1,119,7): *√(s)kṛ-* 'to make', PIE **√k^{w}er-*.
+ *jaraṇá-* adj. 'old, decayed': *√jar^{i}-* 'to grow old, decay', PIE **√ǵerH_2-*. Probably, we must assume a variant *jaráṇa-* acc.pl. (1,121,6; 1,141,7), cf. Oldenberg, Geldner ad loc.
- *dyotaná-* see *dyót-ana-*.
+ *reṣaṇá-* adj. 'injuring' (1,148,5): *√riṣ-* 'to be hurt', PIE **√Hreis-*.

+ *rocaná-* n. 'luminous sphere, firmament' (< adj. 'bright, luminous' AV+, cf. § 2.92 above): √*ruc-* 'to shine', PIE *√*leuk-*.

? *rodhaná-* m. 'bastion' (2,13,10): √*rudh-* 'to restrain', IIr. *√*raudʰ-*. Connections outside IIr. are unknown. For the gender see Oldenberg ad loc.

+ *vacaná-* adj. 'speaking, eloquent': √*vac-* 'to speak', PIE *√*uekʷ-*.

+ *vāraṇá-* adj. 'wild', (+ *mṛgá-*) 'elephant': √*vṛ-* 'to obstruct', PIE *√*uel-*. For the reconstruction of the root see s.v. *vár-ṇa-*. The vocalism is due to the influence of the causative.

+ *śaraṇá-* adj. 'protecting' < **ḱer-eno-*.

+ *śvasaná-* adj. 'snorting' (1,54,5): √*śvas-* 'to snort', PIE *√*ḱues-*.

+ *sacaná-* adj. 'helpful': √*sac-* 'to follow', PIE *√*sekʷ-*.

Evaluation of the suffix *-ana-*

§ **2.94.** The Indo-Iranian laryngeal accent shift, which made oxytone all *i-* and *u*-stems derived from roots with final or medial laryngeal (cf. §§ 2.30ff.), did not affect the suffix *-ana-*, cf. *jánana-*, *jávana-*, *sū́dana-*, *svā́dana-*.

Category 1. Roots without stops.

Oxytona: (+) *reṣaṇá-*, *vāraṇá-*.

Oxytonesis of words with full grade in the root is peculiar for this category (cf. §§ 2.34 and 2.73).

Category 2. One-stop roots without an initial laryngeal.

A. Derivatives with a contiguous stop.

Barytona: (+) *jánana-*, *mā́dana-*, *sádana-*, *sū́dana-*, *svā́dana-*;
(?) *jávana-*, *śā́sana-*, *sā́dhana-*;
Oxytona: (+) *karaṇá-*, *jaraṇá-*, *vacaná-*, *śaraṇá-*, *sacaná-*.

It is hardly open to doubt that the accentual distribution in this category depends on the type of stop. Words with T in the root are oxytone (4:0), whereas words with D or Dʰ in the root are barytone (5:1). There is but one exception, *jaraṇá-*.

B. Derivatives with a non-contiguous stop.

Barytona: (+) *cyávana-*, *várdhana-*;
Oxytona: (+) *rocaná-*, *śvasaná-*;
(?) *rodhaná-*.

Distribution based on the ablaut grade of the root, which has been established for this category with the *i*-, *u*-, and *a*-stems, does not seem to apply here.

CATEGORY 3. One-stop roots with an initial laryngeal.

A. Derivatives with a contiguous stop.

Barytonon: (+) *vákṣaṇa-*.

B. Derivatives with a non-contiguous stop.

Barytonon: (+) *méhana-*.

The barytonesis of this word is in accordance with the *i*- and *u*-stems, where words with non-contiguous laryngeal are barytone.

CATEGORY 4. Two-stop roots.

A. Derivatives with two contiguous stops.

Barytonon: (+) *tápana-*.

B. Derivatives with one contiguous stop.

Barytona: (+) *cétana-*, *tárhaṇa-*, *péśana-*, *bándhana-*;
(?) *śnáthana-*.

C. Derivatives with two non-contiguous stops.

Barytona: (+) *dyótana-*;
(?) *kṣóbhaṇa-*.

The material of the last two categories is too small to allow any conclusion.

§ **2.95. Summary.** The suffix *-ana-* has several points of correspondence with the consonant stems. The IIr. derivatives in *-ana-* often point to **e*-vocalism of the root (cf. AiGr. II,2: 194), which is but scarcely attested in the *o*-stems. Moreover, neuters in *-ana-* have categorial barytonesis, which is only found with consonant stems.

The similarity of the suffix *-ana-* with the consonant stems is now confirmed by the accentual distribution of Category 2A. Words with D and D^h in the root are barytone, whereas words with T in the root are oxytone. This is exactly the distribution which is found with the *i*- and *u*-stems. The same holds true for Category 3B.

The correspondence between the suffix *-ana-* and the consonant stems seems to suggest that the suffix *-ana-* was not yet thematic at the time when the accentual distribution was reshuffled. This implies that the suffix *-ana-* was thematicized later than other *o*-stems.

Moreover, the accentual distribution based on the ablaut of the root which was found in Category 1 (roots without stops) and Category 2A (one-stop roots with a non-contiguous stop) of the *i*-, *u*-, and *a*-stems does not seem to apply to the suffix *-ana-*, cf. *reṣaṇá-*, *vāraṇá-*; *rocaná-*, *śvasaná-*. This is in agreement with the distribution found with the *n*-stems.

SUMMARY AND CONCLUSIONS

§ 2.96. The accentological analysis of Sanskrit primary nominal word formation reveals that both root and suffix morphemes can without contradiction be divided into two prosodic classes in such a way that the accentuation of a word depends on the classes of its constituent morphemes. Moreover, it has been established that the prosodic class of root morphemes is determined by their consonantal structure, whereas the prosodic class of suffix morphemes is determined by the stem formation: one class consists of the suffixes in *-i-* and *-u-*, the other of the suffixes in *-a-*. The material of the other stems is generally insufficient to arrive at a distribution.

A global relation between the consonantal structure of root morphemes and nominal accentuation is the following:

(1) *i*- and *u*-stems derived from roots with final or medial laryngeal are always oxytone, due to the Indo-Iranian accent shift (see §§ 2.30ff.). Therefore, these words do not bear testimony to PIE accentuation.

(2) roots of Category 1 (roots without stops), Category 3A (one-stop roots with an initial laryngeal) and probably Category 2B (one-stop roots with a non-contiguous stop) have accented full grade and unaccented zero-grade, without regard to the class of the suffix.

(3) roots of Category 2A (with one contiguous stop) are accented if the stop is voiceless (T) and the suffix belongs to the *o*-stems, and if the stop is voiced (D/D^h) and the suffix belongs to the *i*- or *u*-stems; otherwise, the root is unaccented. For roots of Category 4 see below.

We may conclude that stops have played an essential role in PIE accentuation. If the root did not contain a stop, or if the stop was not contiguous to the syllabic nucleus, the accentuation was based on the ablaut grade of the root. The same holds true if the effect of stops was blocked by an initial laryngeal. Otherwise, the stop determined the accentuation. Note that D and D^h have the same accentual properties.

On the basis of this accentual distribution we can now analyze the Greek and Germanic material.

§ 2.97. Here I give a survey of the accentual distribution according to the root structure.

CATEGORY 1. Roots without stops.

	i- and *u*-stems	*a*-stems
Full grade	barytone (14:0)	barytone (20:4)
Zero-grade	oxytone (12:2)	oxytone (6:1)

The *ā*-stems may show the same distribution, but the material is very limited: full grades are barytone (2:0), zero-grades are oxytone (2:0). The same holds true for the *r*-stems, where we find barytone *vásr̥*- and *svásr̥*- vs. oxytone *usŕ̥*-. The oxytonesis of *mā-tŕ̥*- is most probably due to the accentuation of the word for 'father', *pi-tŕ̥*- (see § 2.91).

Contrary to the other stems, the material of the *n*-stems, however limited, does not conform to the accentual distribution based on the ablaut of the root, cf. *úran*-, *vŕ̥ṣan*-. The suffix *-ana*-, which seems to be a recent thematicization of the *n*-stems (see § 2.95), also does not show this distribution, cf. oxytone full grades *reṣaṇá*-, *vāraṇá*-.

CATEGORY 2. One-stop roots without an initial laryngeal.

A. Derivatives with a contiguous stop.

	i- and *u*-stems	*a*-stems
T	oxytone (13:1)	barytone (25:3)
D$^{(h)}$	barytone (23:5)	oxytone (21:1)

In contradistinction to the previous category, the ablaut grade of the root does not play any role here, cf.:

	i- and *u*-stems	*a*-stems
Full grade	9x bar.: 3x ox.	14x bar.: 12x ox.
Zero-grade	15x ox.: 15x bar.	12x ox.: 12x bar.

It seems hardly open to doubt that the distribution of Category 2A depends on the type of the stop.

The material of the *ā*-stems does not allow a conclusion: we find for T three oxytona vs. one barytonon and for D$^{(h)}$ two oxytona.

The suffix *-ana*- shows a distribution which is characteristic of the *i*- and *u*-stems: words with T in the root are oxytone (4:0), whereas words with D or D^h in the root are barytone (5:1).

B. Derivatives with a non-contiguous stop.

The distribution is not so evident as in the previous categories. It is possible that the ablaut of the root is a determining factor, but a distribution according to the type of stops cannot be excluded. (Note that the laryngeals do not seem to block the structural contiguity of the stop and that roots with an internal laryngeal are included in Category 2A.) Compare the following distributions:

	i- and *u*-stems	*a*-stems
Full grade	barytone (5:1)	3x bar.: 2x ox.
Zero-grade	3x ox.: 3x bar.	oxytone (2:0)
T	barytone (6:2)	oxytone (3:1)
D(h)	2x ox.: 2x bar.	barytone (2:1)

CATEGORY 3. One-stop roots with an initial laryngeal.

A. Derivatives with a contiguous stop.

The accentual distribution of this category depends on the ablaut grade of the root:

	i- and *u*-stems	*a*-stems
Full grade	barytone (2:0)	barytone (6:1)
Zero-grade	oxytone (6:1)	oxytone (3:1)

B. Derivatives with a non-contiguous stop.

The material is too scant to allow any conclusions, but it seems that the contiguity of the laryngeal may have played a role:

	i- and *u*-stems	*a*-stems
Contiguous laryngeal	oxytone (3:0)	barytone (2:1)
Non-contiguous laryngeal	barytone (2:0)	oxytone (1:0)

CATEGORY 4. Two-stop roots.

A. Derivatives with two contiguous stops.

	i- and *u*-stems	*a*-stems
T...T	4x bar.: 5x ox.	oxytone (5:1)
(s)T...T	barytone (5:1)	none
T...D	none	oxytone (2:0)
(s)T...D^h	oxytone (2:0)	none
D(h)...D(h)	oxytone (5:0)	oxytone (8:2)

The distribution of T...T with the *i*- and *u*-stems is unclear. Note that words of Category 4A often contain secondary full grades (e.g., *pak-tí-*, *śak-tí-*), which may have blurred the distribution if it was based on the ablaut of the root.

B. Derivatives with one contiguous stop.

	i- and *u*-stems	*a*-stems
T...T	oxytone (2:1)	barytone (1:0)
(s)T...T	oxytone (1:0)	none
T...D	none	oxytone (1:0)
ST...D	barytone (1:0)	none
(s)T...D^h	barytone (1:0)	barytone (1:0)
D...Ṭ	none	oxytone (1:0)
D$^{(h)}$...D$^{(h)}$	barytone (1:0)	oxytone (2:1)

The material of this category is generally insufficient to establish a distribution, but I give the numbers in order to facilitate comparison with the Greek and Germanic material. The suffix *-ana-* shows only barytonesis: *cétana-*, *tárhaṇa-*, *péśana-*, *bándhana-*.

C. Derivatives with two non-contiguous stops.

	i- and *u*-stems	*a*-stems
TR...SD	oxytone (2:0)	none

The material is insufficient to establish a distribution.

CHAPTER THREE

THE GREEK EVIDENCE

INTRODUCTION

§ 3.1. The Greek accentuation is known from manuscripts and grammatical treatises. Although the first texts with consistent accentuation appear only in the VIIth cent. A.D., the grammatical tradition of indicating the accents goes back to Aristophanes Byzantinus (IIIth cent. B.C.), who invented the signs for accents, aspiration and interpunction. Doubts about the authenticity of accents in the manuscripts expressed by some scholars are most probably unfounded. It seems reasonable to start from the assumption that the accentuation found in the texts reflects the old situation to a great extent.

The Greek accent can have an acute intonation (rising) or a circumflex intonation (falling). This distinction is the result of a Greek innovation. The circumflex appears only on long vowels and diphthongs in the final syllable or in the penult. In the final syllable the circumflex intonation is due to contractions or to analogical patterning (cf. Bally 1945: 41f.). In the penult the distribution of circumflex and acute is in accordance with the so-called σωτῆρα-Law (also called "Properispomenierungsgesetz"): Stressed long vowels and diphthongs in the penultimate syllable have circumflex if the vowel of the final syllable is short and acute if this vowel is long (σωτῆρα, σωτῆρος, σωτῆρι, σωτῆρας, σωτῆρσι vs. σωτήρων, σωτήροιν). For the explanation of exceptions to this Law see Risch 1975 and Kortlandt 1986a.

§ 3.2. It follows then that "toute l'étude de l'accentuation grecque se réduit à la recherche de la place de l'accent" (Bally 1945: 42). As far as the place of the accent is concerned, Greek shows several innovations too.

The most important accent shift known to all Greek dialects is the so-called limitation law: the place of the stress is limited to the last three syllables of the word, and to the last two syllables if the final syllable contains a long vowel or a diphthong. This law is of importance for our investigation because it affects the accentuation of compounds. In compounds accented on the first member, the stress falls on the last syllable of the first member if the limitation law allows this (Bally 1945: 27). Therefore, the accentuation of words which occur only as the first member of a compound cannot be determined.

Another accent shift is known as Wheeler's Law (or "ποικίλος-Law", "Daktylosgesetz"). According to this Law, the accent was retracted from a short vowel in the final syllable to the penult if the penult was short and the antepenult long (–⏑⏑́ > –⏑́⏑). For an explanation of Wheeler's Law, the limitation law and the σωτῆρα-Law see § 1.8.

The peculiarity of the Lesbian dialect is that all words retract the accent as far as is allowed by the limitation law, cf. θῦμον for θυμόν, πάτηρ for πατήρ, φάνερ[ο]ς for φανερός, etc. This phenomenon is often called "Aeolic barytonesis".

The original accentual distribution, however, was most disturbed not by the phonetic shifts but by analogical patterning. Already in prehistoric times Greek had generalized a uniform accentuation for many categories and suffixes. A well-known example is the recessive accentuation of the finite verb. Moreover, all neuters (including those in -ον) became barytone, with only few exceptions; also barytone are feminines in -ᾰ, *i*-stems and substantives in -ῠς, while adjectives in -υς, -λος, -νος and -ρος show pervasive oxytonesis. There are several indications that this process of generalizing a single accentuation pattern for every category went on in historical times. A good example is the suffix of nomina actionis -μο-, which shows both types of accentuation in Homer but is almost exclusively oxytone in later texts.

The following survey of the Greek evidence is based mainly on the Homeric material conveniently presented in Risch 1974. Denominal formations, compounds, words without etymology, proper nouns, etc. (for criteria see § 2.4) are tacitly omitted. For later Greek, I have made use of Chantraine 1933, from which I took only those words which are etymologically clear. Such words are marked with L (= late). Unless otherwise indicated, the etymological analysis is based on Frisk and Chantraine.

The *i*- and *u*-stems

The *i*-stems

§ 3.3. *I*-stems are always barytone in Greek (cf. Bally 1945: 77f.). Only stems of the type πειθώ, πειθοι- (Chantraine 1933: 115f.) are oxytone and probably reflect a hysterodynamic type nom.sg. **-ōi*, gen.sg. *-i-os*.

In this light, the identical accentuation found in Gr. πόσις 'husband' and Skt. *páti-* 'id.' or in Gr. ὄϊς 'sheep' and Skt. *ávi-* 'id.', which is mentioned time and again as proof of the original identity of the Sanskrit and Greek accentual systems (cf., e.g., Kuryłowicz 1968: 20), is not significant. The accentuation of these Greek words is ambiguous: it might be old, but it might also be analogical.

THE _u_-STEMS

§ 3.4. The adjectives in -ύς are mostly oxytone (Chantraine 1933: 120f.). There are practically no exceptions: Hesychius' glosses γέρυς, κοῖλυ, and τέρυς, mentioned by Schwyzer 1939: 463, are of questionable value; ἥμισυς (based on *ἥμιτυ-) is actually a substantive; πρέσβυς is a compound. The only real exception seems to be θῆλυς 'female', which may be old in spite of Skt. _dhārú-_ (AV+) 'sucking'. The oxytonesis of the Sanskrit word may be due to the Indo-Iranian laryngeal shift (see above § 2.30ff.), so that θῆλυς may have preserved the original accentuation. Alternatively, one may assume that θῆλυς was a substantive meaning 'female' and that its function as an adjective is due to appositive usage, cf. Ἥρη θῆλυς ἐοῦσα T97 'Hērē, being female', ὄϊν θῆλυν K215-6 'a ewe', etc. Consequently, in Greek this word may show the same development as Engl. _female_, which, being derived from Lat. _femella_, originally was only a substantive.

I believe, however, that the pervasive oxytonesis of adjectives in -ύς is relatively recent. As a matter of fact, several adjectives formed with the suffix _-u-_ became thematicized in Greek, merging with the inherited category of adjectives in _-u̯o-_ such as οὖλος 'whole' (Skt. _sárva-_), ὀρθός 'straight' (Skt. _ūrdhvá-_), etc. As these recent ϝο-adjectives show both accentuations, I assume that the thematicization of _u_-stem adjectives was anterior to the generalization of the oxytonesis in this category. If this is correct, the recent ϝο-adjectives have preserved the original accentual distribution of _u_-stem adjectives.

There are four criteria to pin down a -ϝο-derivative as a secondary thematicization:

(1) The old _u_-stem is still preserved in Greek, cf. ταναός 'thin' < *ταναϝος < *_tnH_$_2$_-eu-ós_ vs. τανυ° in compounds < *_tnH_$_2$_-u-_ (cf. for the reconstruction Beekes 1976: 13f.); στεινός 'narrow' < *στενϝος vs. nom.pr. Στενύκληρος (the etymology of this adjective is unknown).

(2) The _u_-stem is attested in other IE languages, cf. λεῖος 'smooth' vs. Lat. _lēvis_ 'id.', which points to an original _u_-stem. The form of the Latin adjective can be explained if we assume that *_leH_$_1$_i-u-_ became first *_lēi̯u-_, and only then, after adding the suffix _-i-_, *_lēi̯u̯is_ > _lēvis_ (Schrijver apud Lubotsky forthcoming _a_). Gr. λίς, acc.sg. λῖτα 'smooth' may reflect *_liHt-_ < *_lH_$_1$_i-t-_ with the laryngeal metathesis.

(3) We find two different ablaut grades of the suffix and/or the root, cf. κεινός 'empty' < *κενϝος < *_ḱen-uos_ and κενεός < *κενεϝος. Ion. μᾱνός, Att. μανός 'loose, rare' < *μανϝος < *_mn̥-u̯o-_ can be determined as an original _u_-stem according to the first two criteria, cf. Hesychius' gloss μάνυ·μικρόν and the Armenian _u_-stem _manr_, gen. _manu_ 'small, thin' (the _-a-_ in the root is probably taken from the gen. *_mn̥-u̯os_ > *_manuos_).

Beside μᾱνός, we find with a different meaning Ion. μοῦνος, Att. μόνος 'alone' < *μονϝος, showing *o*-grade of the root.

Moreover, ὀλοός and οὖλος 'destructive', both derived from the verb ὄλλῡμι 'to destroy', aor. ὀλέσαι < *H_3el-H_1- (Beekes 1969: 131, 236), may represent two different forms of the same adjective.[26] For ὀλοός one reconstructed *ολεϝός < *$H_3(e/o)lH_1$-(e)u̯-o-, but for οὖλος it seemed inevitable to assume a variant of the root without a final laryngeal (cf. Chantraine s.v. ὄλλῡμι; it should be borne in mind that ὄλλῡμι does not testify to a root without a final laryngeal but is rather a remodeling of *H_3l-n-eH_1-mi). However, reconstructing nom.sg. *H_3e/olH_1-u-s > *ολυς with later thematicization (see also below sub 4), we get a straightforward explanation of οὖλος.

(4) The shape of the *u̯o*-adjective cannot be explained without assuming an alternating paradigm. The adjective σῶς (att., Hom., Hdt.), σάος (Il.+, dial.), σῶος (Hdt.) 'safe, healthy' must go back to Proto-Greek **sawos* (cf. Cypr. σαϝοκλέϝης), as Leumann (1957) has demonstrated. The PIE reconstruction **tu̯ə-u̯o-s*, which is given in the dictionaries, is impossible because the constellation **tuə-C* (in laryngealist terms, *tuH_2-C) would have yielded Greek *τῡ-. We must therefore assume a nom. *$tueH_2$-u-s (cf. for the ablaut Lat. *brevis* < *mreǵ^h-u- and *gravis* < *$g^w reH_2$-u-, later rebuilt into *i*-stems, Fischer 1982). This nominative must have yielded Greek *σαυς. The thematicization of this form provided σαϝος, while the introduction of τ- from the oblique cases (e.g., gen.sg. *tuH_2-u-os, etc.) resulted in the new nom.sg. *ταυς reflected in Hesychius' gloss ταῦς·μέγας, πολύς (incidentally, the disyllabic pronunciation of ταυς is far from certain, cf. LSJ s.v. ταῦς).

Along the same lines, we can explain θοῦρος 'impetuous' (< *θορ-ϝος), derived from the root of θρώσκω (< *d^hrH_3-sk-), if we assume the loss of the laryngeal in the nom. *d^horH_3-u-s (cf. for the ablaut πολύς < *$polH_1$-u-s) > *θορυς with subsequent thematicization.

The adjectives mentioned in the preceding paragraphs are not exclusively oxytone, contrary to what we would expect if the oxytonesis had been generalized before the thematicization. I therefore assume that the accentuation of these adjectives reflects the original distribution, for which see § 3.6 below.

§ 3.5. In contrast to the oxytonesis of adjectives in -υς, the *u*-stem nouns show pervasive barytonesis. The barytonesis of neuters is inherited from PIE, cf. μέθυ, γόνυ, δόρυ, πῶυ, etc. This accentuation spread to the masculines, cf. πῆχυς, νέκυς[27], στάχυς, etc. The oxytonon υἱύς 'son' is only an apparent exception. The nominative of this word is attested only in inscriptions and its accent is therefore unknown. The accented forms υἱύς, υἱύν given in the dictionaries and Schwyzer 1939: 574 are fictitious. In Homer we find acc.sg. υἷα, gen. υἷος, dat. υἷι, nom.pl. υἷες, acc. υἷας, du. υἷε, which all point to barytonesis. The suffix is accented only in the forms with -ε-: acc.sg. υἱέα (1x), gen. υἱέος, dat. υἱέι (υἱεῖ), nom.pl. υἱέες (υἱεῖς), acc. υἱέας. The reason for this accentuation may be that the full grade of the suffix was typical for the inflection of the adjectives in -υ-, which were all oxytone. I therefore assume that υἱυς was originally barytone.

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[26] For the etymology of the verb ὄλλῡμι cf. K. T. Schmidt 1982: 367f., who has proposed a convincing connection with Toch. B *alāsk-* 'to be ill, suffer'.

The hysterodynamic type of masculines πάτρως, -ωος (< *-*ōu, -uos*) also shows barytonesis.

As far as the feminines are concerned, they also show pervasive barytonesis. The statement found in Vendryes 1938: 179, Chantraine 1933: 119, Bally 1945: 78 that feminines are oxytone is wrong (cf. Beekes 1973: 234). If we exclude the compound ἰγνύς 'ham' and etymologically unclear ἰχνύς, λιγνύς, ὀστρύς (LSJ gives only ἴχνυς, ὄστρυς), there remains but one feminine oxytonon δελφύς 'womb'. The others are barytone: ἄρκυς, γένυς, γῆρυς, ἴτυς, etc. As to δελφύς, it might be an original *-us-* stem in view of Av. *gərəbuš* n. 'whelp' and probably OHG *kilbur* n. 'ewe-lamb' (J. Schmidt 1889: 150, fn.1), i.e. an old perfect participle ('born' > 'foetus' > 'womb', cf. Skt. *gárbha-* 'womb, foetus').

The feminines in -ῡς are oxytone: action nouns in -τύς, and ἀχλύς, ἰλύς, νηδύς, οἰζύς, etc.

Evaluation of the *i*- and *u*-stems

§ 3.6. The old accentual opposition in the *i*- and *u*-stems has disappeared in Greek. The *i*-stems became barytone, while the *u*-stems created a new opposition: oxytone adjectives vs. barytone substantives. This distribution is relatively recent, as can be seen from the accentuation of the adjectives in -ϝο-, which represent a Greek thematicization of *u*-stems. We find no uniform accentuation there, and I suggest that they have preserved the original distribution.

Category 1. Roots without stops.

Barytona: λεῖος, μοῦνος, οὖλος;
Oxytona: μᾱνός, ὀλοός.

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[27] For the problem of the long -υ- I refer to Beekes 1973: 236ff.

The distribution is clear: full grade roots are accented, zero-grade roots are unaccented. For ὀλοός we must then assume **H_3lH_1-eu-os* (type ταναός < **tnH_2-eu-os*) or **H_3lH_1-u-os*. To the same distribution may also point ἰός 'arrow' which is a Greek thematicization of **isú-* (cf., however, s.v. Skt. *íṣ-u-*).

Category 2. One-stop roots.

A. Derivatives with a contiguous stop.

T	Barytona:	none;
	Oxytona:	κεινός, κενεός, ταναός.
$D^{(h)}$	Barytonon:	θοῦρος;
	Oxytona:	none.

The distribution (T is oxytone, $D^{(h)}$ is barytone) is identical with the distribution in the *i*- and *u*-stems in Sanskrit, which seems to indicate that the system found in Sanskrit once existed in Greek too. This is confirmed by the accentuation of τῡρός 'cheese' < **tūri-o-* (in view of Myc. *tu-ro₂* and Av. *tūiri-* 'id.'), which implies Proto-Greek **tū-rí-*. The latter form is in accordance with the oxytonesis of T.

B. Derivatives with a non-contiguous stop.

The circumflex intonation of σῶς points to the original accentuation *σάϝος, which implies Proto-Greek **tuéH₂-u-*. The barytonesis is in conformity with the Sanskrit distribution, which seems to depend on the ablaut grade of the root.

The *o*-stems

§ 3.7. The accentual distribution of the *o*-stems was also affected by generalizations. The most important is the pervasive barytonesis of neuters in -ον, probably triggered by the barytonesis of neuters with consonantal stems. For the few oxytone neuters it is sometimes difficult to determine whether the aberrant accentuation is old and somehow resisted the tendency to barytonesis or the accentuation is recent. The neuters in -τόν, being substantivized verbal adjectives, are always oxytone, cf. ποτόν 'drink', φυτόν 'plant', βοτόν '(grazing) beast', etc. (Bally 1945: 63). The oxytonesis of the other neuters in -όν is often explained by the parallel forms in -ός or -ά, but ζυγόν and ξυρόν, e.g., are attested earlier than the corresponding -ός variants, while πηδόν, πτερόν, ἐρετμόν (the late ἐρετμός 'rowing' is a productive nom. act. in -μό-) have no parallel forms at their side. I therefore regard the oxytone neuters (except substantivized adjectives) as preserved archaisms, while the barytone neuters are left out of consideration in the sequel.

Another general tendency of the *o*-stems is the oxytonesis of adjectives. This tendency, which affected the adjectives in -ο-, -λο-, -νο-, -ρο- and -το-, is of PIE date. For details see below on the separate suffixes.

The suffix -o-

§ 3.8. The accentological distribution of this suffix in Greek is similar to that of the suffix -*a*- in Sanskrit: nomina actionis are barytone, nomina agentis are oxytone, cf. τόμος 'slice': τομός 'cutting, sharp' (this pair often serves as the name for the whole phenomenon), τρόχος 'race, course': τροχός 'wheel', τρόπος 'way, direction': τροπός 'twisted thong', etc. The root has mostly *o*-grade, but roots with different vocalism show the same distribution (Risch 1974: 10f.).

As in Sanskrit (cf. § 2.41), nomina agentis can express both active and passive notions of the action (Chantraine 1933: 8). For example, ὁλκός can mean both 'hauling-engine' = 'smth. drawing' and 'furrow' = 'smth. drawn', λοπός 'peel' is 'smth. peeled', etc. Also adjectives can express the passive notion, cf. πηγός 'well put together, solid' and κῡφός 'bent forwards'. A more complicated case is νομός 'pasture', which is opposed in accentuation to νόμος 'law'. If we assume for the verb νέμω an original meaning 'to distribute (according to custom)' (cf. Benveniste 1948: 79), νόμος is 'the legal distribution' → 'custom, law', while νομός is 'smth. distributed, assigned in accordance with the custom' → 'pasture, district' (compare for the semantic development κλῆρος 'lot, inheritance' → 'piece of land').

The thesis which I defend in the section on the suffix -*a*- in Sanskrit (§ 2.47), viz. that originally nomina actionis showed both accentuations while nomina agentis (being abstracted from compounds) are always oxytone, finds its confirmation in the Greek material. Nomina agentis occur mostly as second members of compounds in Greek, and simplicia often have a compound at their side, cf. ἀμοιβός 'one who exchanges' and ἐπημοιβός 'alternating', τροφός 'feeder' and κουροτρόφος 'rearing children', with retracted stress in accordance with Wheeler's Law, etc. (Risch 1974: 198, 207). The simplicia are always oxytone: in the list of nom.ag. in Homer Risch (p.10) gives only two barytona: γόμφος 'bolt, fastening' and ὄχος in ὄχος νηῶν 'harbour', which are both nomina concreta and can therefore go back to nomina actionis (see §§ 2.38ff. for the theoretical background).

On the other hand, the nomina actionis have a strong tendency to barytonesis, but nevertheless there are several oxytona, the accentuation of which must be old. I believe that only these words can bear testimony to the PIE accentuation as they have resisted the pressure of the τόμος/τομός system; the other nouns are ambiguous as far as their accentuation is concerned. Accordingly, I include in the material the oxytone nomina actionis (ἀμολγός and ὁδός), but nomina concreta such as δορός 'leathern bag' and ζυγόν 'yoke' may reflect original nomina agentis and are therefore omitted (cf. § 2.43).

It follows that we can only rely on the isolated nouns. There are, however, two reasons why an isolated noun must sometimes be rejected:

(1) Some isolated nouns in Greek were not isolated in PIE. Beside words like κόλπος m. 'bosom, lap' < *ḱuolp-o- (?), ὄγκος m. 'barb of an arrow' < *H_2onk-o-, τοῖχος m. 'wall' < *d^hoiǵ^h-o-, or, with zero-grade in the root, λύγος f. 'twig' < *lug-o- there existed a verb in PIE, so that these words may be original nomina actionis. As the τόμος/τομός distribution is of PIE date (cf. also Kortlandt 1979a on the reflexes of the same system in Slavic), these nomina actionis may have got their accentuation when the verb was still extant.

(2) The τόμος/τομός distribution, which was originally valid for verbal derivatives only affected other nouns too. This pertains especially to nouns with *o*-grade in the root. In my opinion, this category includes χόλος 'gall, anger, wrath', forming a pair with χολή 'id.', which is typical for deverbatives (Frisk s.v. χολή even postulates a verbal root for this pair), probably κότος 'grudge, rancour', and several etymologically uncertain words (but with the meaning of nomina actionis): μόγος m. 'toil', μόθος m. 'battle-din'. On the other hand, adjectives like δολιχός, κωφός, σοφός, ὠμός may have become oxytone, since all adjectives with this suffix and *o*-grade in the root are oxytone. Adjectives with a different root vocalism have preserved the original accentuation, cf. ἕνος, νέος, ὀλίγος.

Finally, denominal formations are also left out of consideration: πηδόν 'blade of an oar', derived from the word for 'foot' (cf. πούς, ποδός); πάτος 'way, path', πόντος 'sea' derived from an *H*-stem, cf. Skt. *pánthāḥ*; σκῶλος 'pointed stake', the lengthened grade of which points to an original root noun.

The general problem with the suffix -o- is that for most nouns we cannot be certain that their meaning (sometimes in combination with their root vocalism) had not affected their accentuation. This reservation, also made for the Sanskrit material, is even more appropriate in the case of Greek, with its many accentological innovations.

The etymologically unclear words, if they are indicated as such by Frisk, are tacitly left out of the following list.

Barytona

+ ἄρκτος m. 'bear' < *_H_2rt-ḱo-_. For the analysis of this word see s.v. Skt. _ŕ̥kṣ-a-_, which has the same accentuation.
- αὖος adj. 'dry' is a Greek thematicization of an old perfect participle *_H_2s-us-_ (Lubotsky 1985), which yielded Gr. *_ahuhos_ > _(h)auos_. This is indicated by the reflexes of this adjective in the Greek dialects and by the hiatus in ἀϋσταλέος 'dry', which contains the same root. For further details I refer to the above-mentioned article.
- βρόχος m. 'noose, slip-knot' is mostly connected with OCS _mrěža_, SCr. _mrȅža_ 'net' and Latv. _mer̃ga_, _mar̂ga_ 'railing', Lith. _márška_ 'small fishing-net'. The BSl. words point to acute intonation of the root, which can be due either to a laryngeal or to a glottalic consonant (*_merHǵ_$^{(h)}$- or *_merǵ-_). In either case the connection with the Greek word is impossible. The etymology is thus unclear.
+ δόλος m. 'bait, trick' < *_dol-o-_. If there existed a verbal root, as suggested by Frisk s.v., the accentuation can be that of the nomina actionis.
L ἕνος adj. 'old' < *_sen-o-_.
+ κῆπος m. 'garden' < *_keH_2p-o-_.
+ λύκος m. 'wolf' < *_ulk_^{w}_-o-_. Although the phonetic shape of the Greek word presents problems, the accentuation may be old. Skt. _vŕ̥ka-_ has the same accentuation.
+ νέος adj. 'new' < *_neu-o-_. Although this adjective is probably derived from an adverb *_nŭ_, being thus a denominative, the formation is clearly PIE. The same accentuation is attested in Skt. _náva-_ 'id.'.
? ὀλίγος adj. 'small' < *_H_3liǵ-o-_. The etymology is uncertain. Especially the connection with λοιγός 'destruction' is problematic (cf. Beekes 1969: 74f.).
L ὄρρος, ὄρσος m. 'bottom, rump' < *_H_1ors-o-_. The accent is attested since Aristophanes. In Homer this word occurs only in compounds παλίνορσος, ἄφορρος, and ὀρσοθύρη.
πῶλος m.f. 'foal' see under the suffix -λο-.
- σκότος m. 'darkness, gloom' cannot be separated from Germanic words for 'shade': Goth. _skadus_, OE _sceadu_, OHG _scato_ < PGerm. *_skadú-_. Two reconstructions are then possible for the Greek word: *_skoto-_ and *_sk$H_3$to-_. If Celtic words for 'shadow' (OIr. _scáth_, MW _isgaud (ysgawd)_, _cy-sgawd_, OC _scod_, etc. < *_skāto-_ or *_skōto-_) belong to our word, this would favour the reconstruction σκότος < *_sk$H_3$to-_, OIr. _scāth_ < *_ske/o$H_3$to-_. The analysis of this *_sk$H_3$to-_ is uncertain: it may contain the suffix _-to-_ or the suffix _-o-_. There are thus too many possibilities to allow an unambiguous IE reconstruction.

? χέρσος f. 'dry land' < *_ǵ_^{h}_ers-o-_. The etymology is uncertain (Frisk s.v.).

+ ὦμος m. 'shoulder' < *_Hōms-o-_ with a secondary lengthened grade.

Oxytona

+ ἀμολγός m. 'milking(-time) (?)' < *_H_$_2$_molǵ-o-_ is an archaic word found in Homer only in the formula (ἐν) νυκτὸς ἀμολγῷ 'at twilight'. Although the exact meaning of the word remains uncertain (cf. Chantraine s.v. ἀμέλγω), it seems beyond doubt that ἀμολγός is a nomen actionis belonging to the verb ἀμέλγω. Since the oxytonesis of this word cannot be due to an innovation, it must be old.

– βιός m. 'bow' < *_g_^{w}_iH-o-_. Skt. _jyā́_ and Av. _jyā-_ 'bow-string' point either to an _ā_-stem (*_g_^{w}_ieH_$_2$) or to a root-noun, and it seems probable that βιός is a derivative of this stem.

– θεός m. 'god' < *_d_^{h}_H_$_1$_s-o-_ (Rix 1969: 179f.). Greek has preserved the athematic noun in compounds, cf. θέσκελος 'miraculous', θέσπις, θεσπέσιος 'divine', so that θεός is a Greek denominal formation.

+ νυός f. 'daughter-in-law' < *_snus-o-_. An archaic _o_-stem, remodelled into an _ā_-stem in Sanskrit (_snuṣā́_), Germanic (e.g., OHG _snur_), and Slavic (OCS _snъxa_).

+ ὁδός f. 'way, road' < *_sod-o-_ is derived from the root for 'to sit', PIE *_sed-_ (cf. for the meaning Skt. _ā-sad-_ 'to go to, approach', _sādá-_ 'riding'). OCS _xodъ_ 'going', mostly connected with ὁδός, cannot be cognate, because *_sodo-_ would yield Slav. *_sādъ_ (with acute intonation of the _ā_) in accordance with Winter's Law. ὁδός is synchronically a nom.act. to ἰέναι (Porzig 1942: 89f.), and its accentuation must be an archaism.

+ ὀπός m. 'juice, esp. of the fig-tree' < *_suok_^{w}_-o-_, if connected with OCS _sokъ_, SCr. _sôk, sȍka_ (c) 'juice', Lith. _sakaĩ_ (4) pl. 'resin'. The accentuation of the Baltic cognates confirms the oxytonesis (Illich-Svitych, § 10), whereas the Slavic accentuation is ambiguous (ibidem, § 49).

πῡρός m. 'wheat' see under the suffix -ρο-.

+ φηγός f. 'oak' < *_b_^{h}_eH_$_2$_ǵ-o-_.

+ χορός m. 'round dance' < *_ǵ_^{h}_or-o-_ is most probably cognate with Lith. _žaraĩs_ 'helter-skelter', originally an instr.pl. of _žãras_ (4) 'order, direction', the accentuation of which also points to oxytonesis (Illich-Svitych § 10). The interpretation of our word by Porzig 1942: 307 as a nomen agentis (" 'Anfasser', weil sich die Tanzenden bei den Händen fassen") from the root *_ǵ_^{h}_er-_ 'to catch' seems improbable. Even if χορός is cognate with this root, it is rather a nomen actionis.

The suffix -*i̯o*-

§ **3.9.** This suffix is mainly secondary in Greek, forming adjectives and nouns from nominals (δῖος 'heavenly', πεζός 'pedestrian', ὄνειρος 'dream', etc.) and adverbs (ξῦνός 'common' from ξύν). Some words in -*i̯o*- are thematicizations of *i*-stems or adverbs in -*i*, cf. τόσ(σ)ος 'so much' (Skt. *táti* 'so many'). The same origin must probably be assumed for the apparent primary derivatives μέσ(σ)ος 'middle' and ἄλλος 'other'. On μέσος see s.v. Skt. *mádh-ya-* (§ 2.64).

The suffix -ϝο-

§ **3.10.** The words formed with this suffix either continue a PIE formation, or are due to a recent, Greek thematicization of PIE *u*-stems. The -ϝο- derivatives of the latter origin were treated above, §§ 3.4, 3.6. Denominals are κεραός 'horned' (κέρας 'horn') and κοῦρος 'boy' (based on κούρη 'girl').

Barytona

+ ἵππος m. 'horse' < _*H_1eḱ-uo-_ is an old *uo*-stem. In spite of the initial ι-, which is unexplained, the Greek word may have preserved the original accentuation, cf. Skt. *áśva-*, etc.
+ οἶος adj. 'alone' < _*Hoi-uo-_. This adjective appears with different suffixes: -*uo*- (also Av. *aēva-*, OP *aiva-*), -*no*- (Lat. *ūnus*, Goth. *ains*, etc.), and -*ko*- (Skt. *éka-*), which points to original _*Hoi-_ 'one, single'. Therefore, οἶος is a denominative of PIE origin.
+ οὖλος, att. ὅλος adj. 'whole' < _*sol-uo-_. The same accentuation is attested in Skt. *sár-va-* 'id.'.
+ οὖρος$_1$ m. 'watcher, guardian' < _*uor-uo-_.
? οὖρος$_2$, att. ὅρος m. 'boundary' < _*sor-uo-_.

Oxytona

L λαιός adj. 'left' < _*leH_2i-uo-_. The Slavic cognates which show circumflex intonation in the root (SCr. *lȉjevī* 'id.', etc.) present a problem, as the constellation -*eH_2i*- must have yielded an acute in BSl. Probably, we may posit _*lH_2ei-uo-_ (for vocalization see Beekes forthc. *b*).
? ναός m. 'temple' < *νασ-ϝο- is most probably a derivative of the verb ναίω 'to live' which may go back to _*nH_2s-_ (Beekes forthc. *b*). The root has no connections outside Greek.
? νειός f. 'fallow land' < _*nei-uo-_ is mostly connected with the Slavic words for 'field, fallow land' (OCS *njiva*, SCr. *njȉva*, Sln. *njíva*) and

derived from the PIE adverb **ni* 'below'. This etymology does not explain the Slavic acute intonation and the initial *nj-*. Slavic *nj-* appears only in the position after a velar before a front vowel (SCr. *gnjȅv, gnjȉda, gnjȉti*, cf. Trubetzkoy 1930: 392) which makes it possible to connect OCS *njiva* with the verb OCS *gnjiti*, SCr. *gnjȉti* 'to rotten' (Kortlandt, pers. comm.). For the semantic development cf. Chuvash *śĕrtme* 'fallow land', which is derived from √*śĕrt-* caus. 'to make rotten'). This etymology would also explain the intonation of the Slavic words, but the loss of the initial *g-* is troublesome. The etymology of νειός remains thus uncertain.

+ ὀρθός adj. 'straight' < **H_3rd^h-uo-*. For the reconstruction see s.v. Skt. *ūrdh-vá-*.

+ σκαιός adj. 'left' < **skeH₂i-uo-* (or **skH₂ei-uo-* ?).

The suffix -λο-

§ **3.11.** The adjectives formed with the suffix -λο- are mostly oxytone in Greek (Bally 1945: 72). In Homer we find oxytone δειλός, τυφλός, ψιλός, χωλός vs. barytone κτίλος, φίλος; on δῆλος see below. The etymology of φίλος 'dear, beloved, orig. own' is still in discussion, and if φίλος is a thematicization of an old genitive in *-l* from the stem **bhi-* (cf. Hamp 1982: 260ff.), its accentuation may be secondary. Κτίλος 'tame' (in Homer only substantivized in the meaning 'ram') may be explained by the influence of other adjectives in -ίλος (ποικίλος, ναυτίλος, etc.) which acquired the retracted accent in accordance with Wheeler's Law. Alternatively, one may think of Lesbian barytonesis, as κτίλος is a poetic word.

Of the exceptions found in the later texts, ἕωλος 'out of date, stale (bread)' is denominative, while μάχλος 'lewd, lustful', στύφλος 'hard, rough', φαῦλος 'cheap, mean' have no IE etymology. The semantics of the latter adjectives makes it probable that their accentuation is not original (cf. also the accentuation of the adjectives in -ρο-). It cannot be excluded *a priori* that the extant exceptions point to an old distribution, but as there are very few etymologically clear words, and as the aberrant accentuation can be explained as an inner-Greek development, we may assume pervasive oxytonesis for this category.

A complicated case is δῆλος 'clear, manifest' < *δεαλος, cognate with δέατο 3sg.impf. < **deiH₂-*. I believe that δῆλος contains the suffix -ελο- (**deiH₂-elo-* > *δεαλο-) because this suffix has the value of a gerundive, cf. ἴκελος 'resembling', lit. 'to be compared', εὐτράπελος 'easy turning' = 'easy to be turned'. This gerundive sense was productive in Greek as can be seen from late formations like δείκελον 'image' (Chantraine 1933: 244). Moreover, the hapax δέελον δ' ἐπὶ σῆμα τ' ἔθηκε K466 'he put a visible sign', unmistakably connected with δῆλος, can be explained if we assume that the suffix -ελο- was restored in order to emphasize the gerundive sense.[28] The accentuation of δῆλος then conforms to the barytonesis of the suffix -ελο-.

The neuters ξύλον, ὅπλον, and φῦλον show the expected barytonesis.

Barytona

L ὄχλος m. 'crowd, throng' < *uóǵ^h-(s)lo-.

? πῶλος m.f. 'foal' cannot be separated from Goth. *fula*, OHG *folo* 'id.', etc. < PGerm. *plH-V-. We can either assume that the Greek ō is the lengthened grade of a root noun, or, more plausible perhaps, reconstruct for Greek *poHlo- and postulate a laryngeal metathesis in Germanic (*pHl- > *plH-). The latter analysis allows the connection with Att. παῦς 'child' which is then an *u*-stem (*peH$_2$-u-) of the same root. This *u*-stem was enlarged, on the one hand, to πάϊς (παῖς), παιδός in Ionic and Aeolian, and, on the other hand, to παῦρος 'small, little' and Lat. *paucus*, *parvus* (< *paurus), *paul(l)us* 'id.'. Skt. *put-rá-* is not cognate (see s.v.).

L στῦλος m. 'pillar' < *stH$_2$u-lo-. The root is an *u*-enlargement of the root of ἵστημι. The long ῡ in στῦλος must be due to the laryngeal metathesis (*stH$_2$ulo- < *stuH$_2$lo-).

L τύλος m. 'lump, knob' < *tu-lo-.

Oxytona

+ αὐλός m. 'pipe, flute' < *H$_2$eu-lo-. The accentuation is confirmed by Lith. *aũlas* (4) 'boot top' (Illich-Svitych § 10). Although the derivation of this word is unknown, we must assume a suffix *-lo-*, because a root *H$_2$eul- with two final resonants is impossible in PIE.

+ βηλός m. 'threshold' < *g^{w}eH$_2$-lo-.

+ καυλός m. 'stem of a plant, spear-shaft' < *keH$_2$u-lo-. The barytonesis in Latv. *kaũls* 'bone', Lith. *káulas* 'bone, stalk; staff' is in accordance with Hirt's Law (Illich-Svitych § 30). For the suffix see above s.v. αὐ-λός.

? χηλός f. 'large chest, coffer' (< *ǵ^{h}eH$_2$-lo-) is probably a derivative of χάσκω 'yawn, gape', which has no certain cognates outside Greek.

L χῡλός m. 'juice, barley-water' < *ǵ^{h}u-lo-. The long root-vowel in Greek is unexplained.

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[28] Ruijgh 1970: 319 proposed to derive δέελος from δέω 'to bind' and to take it as a substantive meaning 'faisceau' in the sense of Hes. δέελος· δεσμός, ἅμμα. The use of coordinating τε would point to the substantive sense of δέελος. On the other hand, the formation of δέελος becomes unclear because *dH$_1$i̯elo- would yield η in Greek.

The suffix -μο-

§ 3.12. In contrast to the adjectives in -λο-, -νο-, -ρο-, those formed with the suffix -μο- do not show a clear tendency to oxytonesis: we find ἐρῆμος vs. δοχμός and θερμός. Moreover, the productive category of adjectives in -ιμος has even retracted stress. The few primary adjectives with the suffix -μο- are therefore included in the material.

Nomina actionis in -μο-, on the other hand, do show pervasive oxytonesis in Greek. In Homer nomina actionis with pervasive oxytonesis pertain to the verbs of sounding: ἰυγμός, ὑλαγμός. But in later texts these formations become productive (Vendryes 1938: 170): ἀγερμός, ἠθμός, θλιμμός, πταρμός, and many others. The suffix -σμος is always oxytone too: ἁρμός, δασμός, δεσμός, θεσμός, θρωσμός, κλισμός, etc.

Accordingly, we can only use the material from Homer (except for the verbs of sounding) and barytone nomina actionis, which must somehow have escaped the tendency toward oxytonesis, from later texts. To this I added some oxytone nomina concreta, which are not likely to continue old nomina actionis.

Barytona

+ ἄνεμος m. ‘wind’ < $*H_2enH_1\text{-}mo\text{-}$.

? ἐρῆμος adj. ‘desolate, solitary’ < $*H_1reH_1\text{-}mo\text{-}$, if connected with ἐρωή ‘rest, repose’ < $*H_1roH_1\text{-}ueH_2$ and Skt. *īrmā́* ‘rest’ (cf. for the latter word Narten 1967-8: 247ff.).

+ ὄγμος m. ‘swathe’ < $*H_2o\acute{g}\text{-}mo\text{-}$. The same accentuation is attested in Skt. *ájma-*.

? οἶμος m. ‘way, road, path’ < **uoi(H)-mo-*, if connected with ἵεμαι. For the problem of the laryngeal in this root see Beekes 1969: 238ff.

+ ὅλμος m. ‘round smooth stone’ < **uol-mo-*.

+ ὅρμος$_1$ m. ‘cord, necklace’ < **sor-mo-*. The etymology of ὅρμος$_2$ m. ‘anchorage, roadsted’ is uncertain.

+ πότμος m. ‘lot, destiny’ < $*pot(H_1)\text{-}mo\text{-}$. For the problem of the laryngeal in this root see Beekes 1969: 238ff.

L τῖμος m. ‘price’ < $*k^wH_1i\text{-}mo\text{-}$, if τίω, from which our word is derived, can directly be connected with Skt. *cā́yati* ‘to perceive’. Incidentally, the whole word family glossed by Pok. 636 as $k^wei(t)$- needs a thorough revision which goes beyond the scope of our investigation. Τῖμος, attested since Archilochus, is mostly regarded as a *Rückbildung* from the denominative verb τιμάω ‘to honour, revere’ derived from τιμή (Schwyzer 1939: 492), but the reason for this interpretation remains unclear. Porzig 1942: 283f. adduces several pairs of words formed with -μος/-μη, cf. ἀτμός: ἀτμή, οἶμος: οἴμη, etc.

L τόρμος m. 'hole, socket' < $*tor(H_1)\text{-}mo\text{-}$. For the problem of the laryngeal see Beekes 1969: 238ff.

Oxytona

+ βωμός m. 'altar, raised platform' < $*g^{w}oH_2\text{-}mo\text{-}$.
+ δοχμός adj. 'slantwise' < $*dH_3\acute{g}^{h}\text{-}mo\text{-}$ if the etymology connecting Skt. *jih-má-* is correct.
+ θερμός adj. 'warm' < $*g^{wh}er\text{-}mo\text{-}$.
+ θῡμός m. 'spirit' < $*d^{h}uH\text{-}mo\text{-}$.
L θωμός m. 'heap' < $*d^{h}oH_1\text{-}mo\text{-}$. The connection with the verb τίθημι was too remote to be responsible for the oxytonesis (see above).
+ κευθμός m. 'hiding-place' < $*(s)keud^{h}\text{-}mo\text{-}$.
+ κορμός m. 'trunk' < $*(s)kor(s)\text{-}mo\text{-}$.
L φορμός m. 'basket for carrying corn' < $*b^{h}or\text{-}mo\text{-}$.
L χῡμός m. 'juice' < $*\acute{g}^{h}u\text{-}mo\text{-}$. The length of ῡ is unexplained.
+ ψωμός m. 'morsel, bit' < $*b^{h}soH_2\text{-}mo\text{-}$.

The suffix -νο-

§ 3.13. The adjectives in -νο- are oxytone in Homer, cf. ἁγνός, δεινός, ἐρεμνός, κεδνός, etc. (μόρφνος Ω 316 is probably a substantive). Only in the later language do we find several barytone νο-adjectives: λάγνος 'lustful, lecherous', λίχνος 'gluttonous, lewd', χαῦνος 'loose, frivolous'. Their accentuation is not well-explained (Schwyzer 1939: 489 thinks of a secondary substantivization), but in view of the semantic sphere of these adjectives the accentuation must be secondary (cf. also the aberrant barytonesis of μάχλος 'lustful', φαῦλος 'cheap, mean', λάβρος 'impetuous', etc.).

The suffix *-sno-* yields always barytonesis: βλέννος, δέννος, λάχνος, λύχνος.

The neuters ἕδνον, στέρνον, τέκνον show the expected barytonesis.

Barytona

+ κύκνος m. 'swan' < $*\acute{k}uk\text{-}no\text{-}$.
L τόρνος m. 'knife for carving, turner's chisel' < $*tor(H_1)\text{-}no\text{-}$. For the laryngeal see Beekes 1969: 238ff.
+ ὕπνος m. 'sleep' < $*sup\text{-}no\text{-}$. For the ablaut in this word see s.v. Skt. *sváp-na-*.
+ ὦνος m. 'price' < $*u\bar{o}s\text{-}no\text{-}$ with a secondary lengthened grade. Skt. *vas-ná-* shows a different accentuation.

Oxytona

L ἀμνός m. ‘lamb’ < *H_2eg^{w}-_no_-.

– καπνός m. ‘vapour’ cannot be connected with Lith. _kvãpas_ ‘breath; smell, spirit’, _kvėpiù, kvẽpti_ ‘to breathe’ because of the vocalism. *_ku̯əp-no-_ (or, in laryngealist terms, *kuH_2p-_no_-) would yield *_kūp-no-_ in Greek.

? κρημνός m. ‘steep descent, overhanging bank’ is most probably connected with the verb κρέμαμαι ‘to hang up’ < *$kremH_2$- (cf. also κρίμνημι < *$kr(e)m$-_n_-eH_2-). As κρημνός points to *krH_2m-_no_-, the laryngeal metathesis must have taken place (*$krmH_2no$- > *krH_2mno-).

+ πλυνοί pl. ‘washing-tub’ < *_plu-no-_.

+ ῥῖνος f. ‘skin’ < *_uriH-no-_.

The suffix -ρο-

§ **3.14.** The adjectives formed with this suffix are predominantly oxytone, cf. ὑγρός, πικρός, μακρός, etc. It seems clear that the oxytonesis of this category was productive, and the oxytone adjectives in -ρο- are ambiguous as far as their original accentuation is concerned. The oxytonesis in this category is also attested in Sanskrit and Germanic.

In Homer there are only three barytone ρο-adjectives. Of these, ἄκρος is used only predicatively and is most probably an original substantive (Frisk 1938: 113). Παῦρος ‘small, short’ is a denominative formation based on an _u_-stem *peH_2-_u_- (cf. att. παῦς ‘child’, also enlarged to παῖς ‘id.’) in the same way as λιγυρός ‘clear, shrill’ is based on λιγύς ‘id.’, ἄργυρος ‘white (metal)’ on *αργυ- (in ἄργυ-φος ‘silver-white’), γλαφυρός ‘hollowed out’ on γλάφυ- ‘cavern’, etc. The denominative nature of παῦρος is also confirmed by Latin, where next to _parvus_ (< *_paurus_) ‘small’ we find _paucus_ and _paul(l)us_. The third word is λάβρος ‘furious, boisterous’, which is etymologically unclear (Chantraine 1933: 224).

After Homer we find no new barytone adjectives in -ρος, except γαῦρος ‘disdainful’, κραῦρος ‘brittle’, φλαῦρος ‘indifferent, bad’, which are probably influenced in their accentuation by παῦρος.

Barytona

+ ἄκρος adj. ‘extreem, highest’ < *$H_2e\acute{k}$-_ro_-.

? βόθρος m. ‘cavity’ < *b^hod^h-_ro_-, if the β- is analogically taken from βαθύς.

? κάπρος m. ‘wild boar’ < *$\acute{k}H_2p$-_ro_-. As this word is found only in European languages, it is probably a loan.

+ κλῆρος m. ‘lot, inheritance’ < *$(s)klH_2$-_ro_-.

- ὄμβρος m. 'rain' cannot be connected with Lat. _imber_, Skt. _abhrá-_ because *-_mb_^{h}- does not yield Gr. -μβ- (cf. Beekes 1969: 74).
+ τάφρος f. 'ditch' < *_d_^{h}_mb_^{h}_-ro-_.
- ταῦρος m. 'bull' is most probably a substratum word.

Oxytona

+ ἀγρός m. 'field' < *_H_$_2$_eǵ-ro-_. Skt. _áj-ra-_ shows deviating accentuation.
- ἀλιτρός m. 'sinner' < *_H_$_2$_lit-ro-_ is most probably a substantivized adjective 'sinning'.
+ νεβρός m. 'fawn' < *_neg_^{w}_-ro-_. If the original meaning of νεβρός was 'spotted', then its accentuation can be that of the adjectives.
L νεφρός m. 'kidney' < *_neg_^{wh}_-ro-_.
+ ξυρόν n. 'razor' < *_k(_^{w}_)su-ro-_. Skt. _kṣurá-_ and Av. _xšura-_ 'id.' point to initial *_ks-_ or *_k_^{w}_s-_.[29]
? πῡρός m. 'wheat' is cognate with Lith. _pūraĩ_ pl. 'winter crops' (with both AP 2 and AP 4 in Žemaitian dialects), Latv. _pûŗi_ 'id.', SCr. _pȉr_ 'spelt', Sln. _pȋr_, Russ. _pyréj_, OE _fyr(e)s_ 'id.', etc. In view of Arabic _burr_, Korean _pori_ 'barley', Georgian _puri_ 'bread', this family has often been considered as a _Wanderwort_, an alternative which cannot _a priori_ be rejected. Nieminen 1956: 119, however, derived this family from the root glossed by Pok.827 as *_pēu-_: _pəu-_: _pŭ̄-_ 'schlagen; scharf, schneidend hauen'. If we exclude Gr. παίω (for which see Frisk s.v.), we can reconstruct the root as *_peH_$_1$_u-_. Our word is then a _ro_-derivative *_pH_$_1$_u-ro-_ 'das Geschlagene, Gedroschene' or rather 'das Geerntete'. The position of the laryngeal would explain the intonation in Baltic, Slov. _pȋr_ and, probably, the short vowel of OE _fyres_. On the other hand, AP _a_ in SCr. _pȉr_ and AP 2 in Lithuanian must then be secondary.
? σταυρός m. 'pole' < *_steH_$_2$_u-ro-_ or _stH_$_2$_eu-ro-_. In view of Skt. _sthū-rá-_ 'big, strong, thick', σταυρός is most probably a substantivized adjective.

The suffix -το-

§ **3.15.** The accentual distribution of this suffix is the following: the verbal adjectives with zero-grade in the root are oxytone (ποτός, στατός, γνωτός, etc.), while the nomina actionis with *o*-grade in the root are barytone (νόστος, φόρτος, etc.). The substantivized adjectives preserve the oxytonesis, cf. βροτός 'mortal man', στρατός 'army', etc. The same holds true for the neuters, cf. ποτόν, φυτόν, etc.

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[29] The latter reconstruction is preferable because there probably was no phoneme *_k_ in PIE (cf. § 1.23) and I believe that the reconstruction *_k_^{w}_su-ro-_ is possible for Greek. As can be seen from Myc. _qi-si-pe-e_ du. > Gr. ξίφος 'sword', Proto-Greek *_k_^{w}_s_ yields Gr. ξ, and not ψ. Ruijgh (1967: 188, fn.448) suggested a dissimilation *χʷσιφος > ξίφος, but this seems implausible (cf. also ψῆφος, ψαφαρός, ψέφας, ψόφος, etc.). Forms like ὄψομαι < *_H_$_3$_ek_^{w}_-s-_ may be analogical, with *-_k_^{w}- restored on the basis of other forms.

Accordingly, the words with this suffix cannot be used.

The suffix -τρο-

§ **3.16.** The accentuation of the suffix *-tra-* in Sanskrit depends on the semantics and therefore cannot testify to the original distribution (see § 2.57). This may also be the case with the Greek suffix -τρο-, but the material is too limited to allow a conclusion. In the following, I shall give all the relevant material, but it should be borne in mind that the accentuation may be secondary.

The neuters mostly have recessive accent, as expected, cf. λέκτρον 'couch, bed', τέρετρον 'borer, gimlet', φέρτρον 'litter, frame', etc. There are two exceptions: δαιτρόν Δ262 'portion' next to common δαιτρός 'one that carves and portions out', and λοετρόν 'bath' (see below).

Barytona

+ οἶστρος m. 'gadfly, breese' < *$^*H_3eis$-tro-*.

Oxytona

+ δαιτρός m. 'one that carves and portions out' < *$^*deH_2i$-tro-*. The neuter δαιτρόν has the accentuation of the masculine.

? λοετρόν n. 'bath' is difficult. Its Mycenaean cognate *re-wo-to-ro* supposes an original form *λεϝο-. For a discussion of possible explanations see Beekes 1969: 232.

+ φιτρός m. 'block of wood' < *$^*b^hiH$-tro-*.

Evaluation of the *o*-stems

§ **3.17.** In the following survey I write a hyphen before the suffix of each word in order to facilitate tracing back the material in the previous sections.

CATEGORY 1. Roots without stops.

Barytona: (+) ἄνε-μος, νέ-ος, οἶσ-τρος, ὅλ-μος, ὅρ-μος, ὄρρ-ος, οὖλ-ος (-ϝο-), οὖρ-ος$_1$ (-ϝο-), ὦ-νος, ὦμ-ος;

(L) ἕν-ος;
(?) ἐρῆ-μος, οἶ-μος, οἶ-ος (-ϝο-), οὖρ-ος$_2$ (-ϝο-);
Oxytona: (+) αὐ-λός, νυ-ός, ῥῑ-νός;
(L) λαι-ός (-ϝο-);
(?) λοε-τρόν, να-ός (-ϝο-), νει-ός (-ϝο-).

All barytona have full grade in the root, as expected, but also two oxytona have full grade in the root. These exceptions, αὐλός and λαιός, cannot easily be explained. It is remarkable, however, that these words form rhyme-pairs with καυλός and σκαιός respectively, both of which do not conform to the expected distribution either (see below). For λαιός and σκαιός one may think of the influence of δεξιός.

CATEGORY 2. One-stop roots without an initial laryngeal.

A. Derivatives with a contiguous stop.

T Barytona: (+) κλῆ-ρος, λύκ-ος, ὕπ-νος;
(L) στῦ-λος, τῖ-μος, τόρ-μος, τόρ-νος, τύ-λος;
(?) πῶ-λος;
Oxytona: (+) καυ-λός, κορ-μός, ὀπ-ός, σκαι-ός (-ϝο-);
(?) πῡ-ρός, σταυ-ρός.

The barytonesis is not so predominant as we would expect on the basis of the Sanskrit material. For καυλός and σκαιός see sub Category 1.

D$^{(\mathrm{h})}$ Barytona: (+) δόλ-ος;
(L) ὄχ-λος;
(?) χέρσ-ος;
Oxytona: (+) βη-λός, βω-μός, δαι-τρός, θερ-μός, θῡ-μός, νεβ-ρός, ὀδ-ός, φι-τρός, χορ-ός;
(L) θω-μός, νεφ-ρός, φορ-μός, χῡ-λός, χῡ-μός;
(?) χη-λός.

In contrast with T, the accentuation of D$^{(\mathrm{h})}$ does not leave any doubt: the oxytonesis is certain. The accentuation of δόλος may be that of nomina actionis (see above), while ὄχλος may contain the suffix -σλο- (Frisk s.v.) and then is a Greek formation.

B. Derivatives with a non-contiguous stop.

Barytona: none;
Oxytona: (+) πλυ-νός, ξυ-ρόν, ψω-μός.

The material is not extensive, but it seems probable that the accentuation may depend on the ablaut grade of the root (cf. §§ 2.34,73). In this case, ψω-μός would be an exception.

CATEGORY 3. One-stop roots with an initial laryngeal.

A. Derivatives with a contiguous stop.

Barytona: (+) ἄκ-ρος, ἄρκτ-ος, ἵππ-ος (-ϝο-), ὄγ-μος;
(?) ὀλίγ-ος;
Oxytona: (+) ἀγ-ρός, ὀρθ-ός (-ϝο-);
(L) ἀμ-νός.

If the distribution based on the ablaut grade of the root, as was suggested for the Sanskrit material, is correct, then ἀγρός, ἄρκτος, and ἀμνός must be considered exceptions. On the other hand, it cannot be excluded, that ἀγρός and ἀμνός represent the zero grade of the root $^*H_2\acute{g}$*-ro-* and $^*H_2g^w$*-no-*). This explanation would at the same time explain the difference in accentuation between ἀγρός and Skt. *ájra-*.

B. Derivatives with a non-contiguous stop.

Barytona: none;
Oxytonon: (+) ἀμολγ-ός.

CATEGORY 4. Two-stop roots.

A. Derivatives with two contiguous stops.

(s)T...T Barytona: (+) κῆπ-ος, κύκ-νος, πότ-μος;
Oxytona: none.
D$^{(h)}$...D$^{(h)}$ Barytona: (+) τάφ-ρος;
(?) βόθ-ρος;
Oxytona: (+) δοχ-μός, φηγ-ός.

The barytonesis of T...T roots contradicts the Sanskrit evidence. The roots of D$^{(h)}$...D$^{(h)}$ structure are largely oxytone in Sanskrit, which runs parallel with the accentuation of δοχμός and φηγός.

B. Derivatives with one contiguous stop.

(s)T...D$^{(h)}$ Barytona: none;
Oxytonon: κευθ-μός.

THE LARYNGEAL STEMS

§ 3.18. The IE stems in *-i*H_2 and *-u*H_2 became ᾰ-stems in Greek due to the vocalization of the laryngeal. As the ᾰ-stems are always barytone in

Greek (cf. Bally 1945: 44, 49f.), they are irrelevant for our investigation. We can use only the material of the *eH₂*-stems, which appear as η(ᾱ)-stems in Greek.

The suffix -η

§ 3.19. The suffix -η was productive in Greek in both denominal and deverbative functions. In its denominal function the suffix -η formed abstracta from adjectives (ἔχθρα, θέρμη, κάκη, etc.) and a kind of 'collectiva/abstracta' from root-nouns (θήρη, πέδη, etc.) and other nouns (μέθη, ἡμέρα, πάτρη, φρήτρη, etc.). The η-derivatives, where the collective meaning of the suffix was lost, can be considered as 'thematicized' root-nouns (δίκη, θύρη, μήνη, φρίκη, ὥρη, etc.). Some of the original root-nouns still exist in Greek (μήν, φρίξ, for θύρ- see Frisk s.v. θύρη), while others are attested elsewhere (δίκη ~ Skt. *díś*-, ὥρη ~ Av. *yārə*). All these denominal formations are barytone (I found only one exception, viz. πυρή 'funeral-pyre').

Conversely, deverbative formations are oxytone. The suffix -η forms nomina actionis with *o*-grade in the root, cf. γονή, λοιβή, σπονδή, τομή, φθογγή, etc. In Homer there are no exceptions to the oxytonesis. Later we find several barytona, but their connection with a verb is mostly uncertain. Φόβη 'lock of hair' is hardly a nomen actionis of φέβομαι (see Chantraine s.v. φέβομαι), late σόβη 'tail of a horse or a bull' is most probably a *Reimbildung* to φόβη, κρόκη 'woof' is a denominative from κρόξ 'id.'. Only φθόη (Pl.+) 'perishing, decay' and ἀμόργη (Hp.+) 'oil-dregs' are connected with verbs (φθίνω and ἀμέργω), but these formations are hardly old.

Nomina actionis with root vocalism other than -*o*- are also predominantly oxytone (ῥαφή, ἀρχή, πηγή, πληγή, ῥῑπή, τυχή, etc.). The vocalism of this group, which is mostly taken from the verb, betrays the recent character of the formation. The exceptions to oxytonesis are more frequent here than in words with the *o*-vocalism, however. There seem to be two reasons for the aberrant accentuation (cf. Schwyzer 1939: 460): the derivatives are denominal in origin, or the barytonesis is taken from a neuter *s*-stem. Denominal origin can be assumed for λώπη 'robe, mantle' (~ λέπω), where the lengthened grade points to a root-noun. Furthermore, from a root-noun are probably derived κώπη 'handle' and κάπη 'crib', λώβη 'outrage, dishonour' (the etymology of this word is uncertain, however), and Hesych's gloss λώγη· καλάμη καὶ συναγωγὴ σίτου (~ λέγω). Words of uncertain etymology (ἄγη, μάχη, μύλή, μΰνη, στίβη, etc.) might be of denominal origin. The other exceptions from Homer can be explained as follows: ἄζη (χ184) points to ἄζᾰ (cf. Frisk s.v.); the accentuation of ἀλίη probably follows that of the nouns in -ίη (Bally 1945: 52); ἄλη 'wandering' is secondarily derived from ἀλάομαι (Risch 1974: 13). Only the accentuation of λήθη is difficult to explain, but Porzig (1942: 233) points out that "die Verwendung von λήθη (as a pure nomen actionis, AL) zeigt, daß es eine ziemlich junge Ableitung von λήθειν ist".

As far as I can see, the barytonesis due to a parallel *s*-stem does not occur in Homer, but in later texts we find βλάβη 'harm, damage' beside βλάβος, πάθη 'suffering' beside πάθος, etc. For a discussion of the difference in meaning and more examples I refer to Chantraine 1933: 23f. and Gagnepain 1959: 88ff.

It follows that we can only use isolated η-derivatives. Reconsidering the evidence, we see that these nouns are mostly barytone and that their cognates outside Greek show different stem formations. E.g., ἑέρση 'dow' ~ Skt. *varṣám* n. 'id.', ἅρπη 'sickle, a bird of prey' ~ OCS *srъpъ* 'sickle', πεύκη 'pine' ~ OPr. *peuse*, Lith. *pušìs*, etc. This points to an original root-noun, which would imply that -η in Greek words is of denominal origin with regular barytonesis. I found only two words which seem to be old:

ἥβη 'youthful power' < **ieH$_1$g^w-eH$_2$* (cf. Latv. *jẽga* 'thought, mind', Lith. *jėgà* 'strength, force');

σκιά 'shadow' < **skH$_1$i-eH$_2$* (the same accentuation is attested in Skt. *chāy-ā́*).

The suffix -ϝη

§ **3.20.** As far as I can see, there is no reliable material for this suffix in Greek. Ion. δειρή, Att. δέρη 'neck, throat' has been connected with the family of Skt. *grīvā́*, Latv. *grĩva* 'id.', but there are insurmountable obstacles to this etymology: the differences in the vocalism, consonantism (the Aeolian form δερα rather points to PIE **d-* than to PIE **g^w-*), and accent between Attic and Ionic are unexplained.

If Ion. ποίη, Att. πόα 'grass, herb' is derived from πῶυ 'flock of sheep' < **poH$_2$i-u-*, it contains the denominal suffix -η, which explains the barytonesis.

The same is probably valid for the word Ion. κούρη, Att. κόρη 'girl', which is mostly connected with the verb κορέω 'to bring up' < **ḱorH$_1$-*. If this connection is correct (in spite of the semantic problems), we can explain the loss of the laryngeal only by assuming an old *u*-stem **ḱorH$_1$-u-* > **ḱoru-*, to which a suffix -η was added. The accentuation of κούρη must then be due to the barytonesis of denominal formations in -η (see above, § 3.19).

The suffix -λη

§ **3.21**. In this material I do not include words with suffix -ελη, as they are derivatives of *l*-stems and show the retracted accent in accordance with their denominal origin, cf. ἀγέλη, νεφέλη.

Barytona

+ ζεύγλη f. 'loop attached to the yoke' < $*(H)ieug\text{-}leH_2$.
+ ὀμίχλη f. 'mist, fog' < $*H_3migh\text{-}leH_2$. The same accentuation is reflected in Lith. *miglà* 'id.' (AP 2 in dial.) and SCr. *màgla* (AP b in dial.) (Illich-Svitych §§ 4, 40).
L τρώγλη f. 'hole' < $*troH\acute{g}\text{-}leH_2$.

Oxytona

+ αὐλή f. 'courtyard' < $*H_2eu\text{-}leH_2$.
L θηλή f. 'teat, nipple' < $*d^heH_1\text{-}leH_2$.
+ κεφαλή f. 'head' < $*\acute{g}^heb^hH_2\text{-}leH_2$. To this form point also Toch. A *śpāl* (< PToch. $*\text{ḱəpal}V$) and Germanic forms (Goth. *gibla* 'gable', OHG *gebal* 'skull'). There is no evidence in Germanic for *-el-*, which is often assumed (the *-a-* in the OHG word is a *Sproßvokal*). Furthermore, if the suffix were *-el-* in Germanic, it would not be syncopated.
L φῡλή f. 'race, tribe' < $*b^hH_2u\text{-}leH_2$. For the reconstruction of the root see s.v. Skt. *bhū-tí-*.

The suffix -μη

§ **3.22**. The words καλάμη 'stalk' and παλάμη '(palm of the) hand' are not included in the material, because they contain the full grade of the suffix $*em\text{-}$ ($*\acute{k}lH_2\text{-}em\text{-}$ and $*plH_2\text{-}em\text{-}$ respectively, see Beekes 1975). They are probably denominal formations and are accented in accordance with the barytonesis of denominal derivatives in -η (cf. § 3.19).

The words in -μη are often barytone and have parallel forms in -μα, -ματος, especially in the later language, cf. γνώμη 'mark, judgement' ~ γνῶμα 'id.', μνήμη 'remembrance, memory' ~ μνῆμα 'id.', ῥύμη 'drawing, rush' ~ ῥῦμα 'drawing, towing-line', etc. Nevertheless, I include them in the material, because the μη-derivatives are not exclusively barytone even in the later language (cf. γραμμή 'line' ~ γράμμα 'letter'; στιγμή 'brand-mark, point' ~ στίγμα 'tatoo-mark', etc.).

The words formed with the suffix *-σμη are predominantly oxytone: αἰχμή 'point of a spear', ὁρμή 'onset, assault', or from the later texts ἁρμή 'junction', ὀσμή (a variant of Homeric ὀδμή), etc. It is remarkable that the late formations with a restored -σ- are often barytone, cf. δέσμη, χάσμη, πλήσμη, etc.

Barytona

+ βρῶμη f. 'food, meat' < $*g^{w}rH_{3}\text{-}meH_{2}$.
L γνώμη f. 'token; judgement' < $*\acute{g}nH_{3}\text{-}meH_{2}$.
- κνήμη f. 'leg, shank, spoke' < $*\acute{k}nH_{2}\text{-}meH_{2}$ must be an old *m*-stem in view of OIr. *cnáim* 'bone' < $*\acute{k}nH_{2}\text{-}m\text{-}i\text{-}$ and OHG *hamma* 'hollow of the knee, ham' < $*\acute{k}onH_{2}\text{-}m\text{-}eH_{2}$ ("Schwebeablaut" $*\acute{k}neH_{2}m\text{-}/\acute{k}onH_{2}m\text{-}$ is improbable). This implies that the η-stem in Greek is of denominal origin, which explains its barytonesis (see § 3.19).
+ λόχμη f. 'thicket, lair of wild beasts' < $*lo\acute{g}^{h}\text{-}meH_{2}$.
L μνήμη f. 'remembrance, memory' < $*mnH_{2}\text{-}meH_{2}$.
? οἴμη f. 'song' < $*u̯oi(H_{1})\text{-}meH_{2}$, if connected with οἶμος 'way, road, course of a song' (cf. also s.v.).
? τόλμη f. 'courage' < $*tolH_{2}\text{-}meH_{2}$ is a rare and rather late attested variant of the usual τόλμᾰ, which has regular barytonesis (see § 3.4). Therefore, it seems probable that the accentuation of τόλμη was influenced by that of τόλμᾰ. Compare also the rule formulated by Bally (1945: 50), that if parallel forms exist with short and long α, they are both barytone (δίψη ~ δίψᾰ; πείνη ~ πεῖνᾰ; πρύμνη ~ πρύμνᾰ, etc.). On the other hand, in Dorian we find also τόλμᾱ (Pi.), where the influence of τόλμᾰ is less probable. For the problem of the internal laryngeal see Beekes 1969: 238f.
+ φήμη f. 'saying, utterance' < $*b^{h}eH_{2}\text{-}meH_{2}$. The vocalism is most probably secondary (cf. Kortlandt 1980c).
+ χάρμη f. '(joy of) battle' < $*\acute{g}^{h}r\text{-}meH_{2}$.

Oxytona

+ ἀκμή f. 'edge' < $*H_{2}(e)\acute{k}\text{-}meH_{2}$.
L γραμμή f. 'line' < $*grb^{h}\text{-}meH_{2}$.
+ ὀδμή f. 'smell' < $*H_{3}(e/o)d\text{-}meH_{2}$. If Kortlandt's thesis that $*H_{3}e\text{-}$ yields initial *h-* in Albanian is correct (Kortlandt 1986b), we must reconstruct $*H_{3}od\text{-}meH_{2}$ in view of Alb. *amë*.
L στιγμή f. 'brand-mark, point' < $*stig\text{-}meH_{2}$.
+ τῑμή 'honour' < $*k^{w}H_{1}i\text{-}meH_{2}$. For the reconstruction see above s.v. τῑ-μος.

The suffix -νη

§ 3.23. It seems that several words with the suffix -νη must be analysed as η-derivatives belonging to a nasal present. For example, we can explain the long vowel in κλῑ́νη 'bed' only if we assume that it was taken from the present κλῑ́νω < *κλῐ́νjω . In a similar fashion, δῑ́νη 'whirlpool' seems to be derived from the present δῑνέω. These formations are then recent and therefore not included in the material.

Words with the suffix -σνη are always barytone: λάχνη, πάχνη, πτέρνη, τέχνη, etc.).

Barytona

L ἐρίπναι pl. 'cliff, crag' < $*H_1rip\text{-}neH_2$.
+ ζώνη f. belt, girdle' < $*(H)ie/oH_3s\text{-}neH_2$.
L κτοίνᾱ f. 'canton' < $*t\acute{k}oi\text{-}neH_2$. The accentuation is attested only in Hesychius and is therefore not very certain.
L πόρνη f. 'prostitute' < $*porH_2\text{-}neH_2$. For the problem of the laryngeal see Beekes 1969: 238ff.
+ φάτνη f. 'manger, crib' < $*b^hnd^h\text{-}neH_2$.

Oxytona

+ ποινή f. 'blood-money, were-gild' < $*k^woi\text{-}neH_2$. The same accentuation is attested in Lith. *kainà* (4) 'price' and SCr.(dial.) *cīnȁ* (c) 'id.' (Illich-Svitych §§ 5, 39).
L φερνή f. 'dowry' < $*b^her\text{-}neH_2$.
+ φωνή f. 'sound, tone' < $*b^hoH_2\text{-}neH_2$.
L ὠνή f. 'buying, purchasing' < $*u\bar{o}s\text{-}neH_2$ with a secondary lengthened grade. The vocalism of the Greek word is not well-explained, cf. Aeol. ὄννα < $*uos\text{-}neH_2$.

The suffix -ρη

§ 3.24. The suffix -ρη forms only derivatives with retracted accent. Most of them are evidently denominal formations in -η (αἴθρη, αὔρη, πέτρη, etc.), which explains the pervasive barytonesis (see § 3.19). Probably also denominal is τέφρη 'ashes', since the *i*-stem in Lat. *febris* 'fever' points to an original *r*-stem. The only word where we find no immediate evidence for its denominal origin is ἕδρη 'seat' (cf., however, Lat. *sēdēs* with the long root vowel, which points to an original root noun), but in view of the foregoing it seems unwarranted to assume an old formation for this word.

The suffix -τη

§ 3.25. The words formed with this suffix are predominantly oxytone abstracta (Risch 1974: 26): βροντή, γενετή, etc. Their accentuation is parallel to the abstracta in -η (§ 3.19).

The exceptions to the oxytonesis can be explained as follows: ἀάτη 'delusion' has no etymology; δαίτη 'meal' is most probably a denominal formation, being an η-derivative from δαίς, gen. δαιτός 'portion, meal', with regular barytonesis (§ 3.19); χαίτη 'flowing hair' is isolated in Greek and may be denominal as well; κοίτη 'resting-place' is a hapax (τ341), appearing instead of the usual κοῖτος 'id.', which may have influenced the accentuation of κοίτη. As far as ἀήτη 'blast' is concerned, its close connection with the root ἄημι makes it probable that ἀήτη is a Greek formation (Porzig 1942: 246).

Evaluation of the η-stems

§ 3.26.
CATEGORY 1. Roots without stops.

Barytona: (+) ζώ-νη;
(?) οἶ-μη;
(L) μνή-μη;
Oxytona: (+) αὐ-λή;
(L) ὠ-νή.

The usual accentual distribution of this category in *i*-, *u*- and *o*-stems, viz. that a zero-grade in the root yields oxytonesis and a full grade yields barytonesis (cf., e.g., §§ 3.6,17), does not apply here. We find two barytone derivatives with full grade in the root (οἶμη, ζώνη) and two oxytone (αὐλή, ὠνή), while one derivative with zero-grade in the root is barytone (μνήμη; theoretically, a full grade in this root is also possible).

CATEGORY 2. One-stop roots without initial laryngeal.

A. Derivatives with a contiguous stop.

T Barytona: (L) κτοί-νᾱ, πόρ-νη;
(?) τόλ-μη;
Oxytona: (+) ποι-νή, σχι-ή, τῑ-μή;
D$^{(h)}$ Barytona: (+) βρώ-μη, ἥβ-η, λόχ-μη, φή-μη, χάρ-μη;
(L) γνώ-μη;
Oxytona: (+) φω-νή;
(L) θη-λή, φερ-νή, φῡ-λή.

The material shows a slight preference for oxytonesis with T (3:2) and barytonesis with D$^{(h)}$ (6:4), but this can hardly be called a clear distribution.

B. Derivatives with a non-contiguous stop.

No evidence.

CATEGORY 3. One-stop roots with initial laryngeal.

A. Derivatives with a contiguous stop.

Barytona: (+) ὀμίχ-λη;
(L) ἐρίπ-νη;
Oxytonon: (+) ἀκ-μή;

B. Derivatives with a non-contiguous stop.

Barytonon: (+) ζεύγ-λη.

CATEGORY 4. Two-stop roots.

A. Derivatives with two contiguous stops.

sT...D$^{(h)}$ Oxytonon: (L) στιγ-μή;
D$^{(h)}$...D$^{(h)}$ Barytonon: (+) φάτ-νη;
Oxytona: (+) κεφα-λή;
(L) γραμ-μή.

B. Derivatives with one contiguous stop.

T...D$^{(h)}$ Barytonon: (L) τρώγ-λη.

For the last two categories no conclusion seems possible.

It follows that for the Greek η-stems no accentual distribution based on the root structure can be established. This result coincides with our conclusion about the Sanskrit *ā*-stems. There, too, no distribution has been found.

THE *r*-STEMS

§ **3.27.** The *r*-stems hardly provide any material. The nominatives of the neuter *r*/*n*-stems are always barytone, both with zero- and full grade of the suffix, cf. ἔαρ, ἦμαρ, ἧπαρ, οὖθαρ, πέλωρ, τέκμωρ, etc.

The accentual distribution of the suffix -τηρ/-τωρ depends on the ablaut of the suffix: -τήρ is always accented, while derivatives with the suffix -τωρ always have retracted accentuation. This distribution is morphological in origin and of no use to our investigation (cf. also § 2.86 on the Sanskrit suffix *-tar-*).

Kinship terms are discussed in §§ 2.87,91. The remaining material comprises oxytone nouns only (αἰθήρ, ἀήρ, ἀνήρ, ἀστήρ, γαστήρ, σπινθῆρες).

THE *n*-STEMS

§ 3.28. The *n*-stems form several productive categories with a uniform accentuation.

The neuter *n*-stems used as oblique cases of *r/n-* and some other stems are barytone (Risch 1974: 59, 61f.). Also barytone are neuters with the suffix -μα < **-mn̥* (δέρμα, ὄνομα, χάρμα, and many others).

The masculine derivatives with the suffix -μων, gen. -μονος show the retracted accentuation (Risch, p.51); in Homer the only exceptions are ἡγεμών, κηδεμόνες, and δαιτυμόνες, which are clearly recent formations. On the contrary, the suffix -μέν- is always accented (ἀυτμήν, λιμήν, ποιμήν, etc.). The distribution is thus parallel to -τωρ: -τήρ and is of morphological origin.

Words with the suffix -μών, gen. -μῶνος are oxytone (θημών, τελαμών, χειμών, etc.).

The suffix -ων- is mainly denominal and shows several types:

(1) The στράβων type denotes persons with properties expessed by the adjective (or sometimes the substantive), from which it is derived. This type mostly has retracted accentuation (Risch, p.56f.), cf. Homer αἴθων, τρήρων, and many names: Λύκων, Μένων, Χείρων, etc.

(2) The χαλκεών type, the so-called *Ortsbezeichnungen*, is oxytone (Risch, p.57). To this type probably belong terms for parts of the body: ἀγκών 'elbow', βουβών 'groin', μυών 'muscle', etc.

(3) In several nouns the suffix -ων serves as an enlargement of the root-noun (Chantraine 1933: 161), cf. κλύδων vs. acc.sg. κλύδα, ἀρηγών (-όν-) 'helper' vs. Skt. *rā́j-* 'king', etc. Denominal is also αἰών (cf. Skt. *ā́yu-*).

There are but a few words in -ων which seem to be primary derivatives: πέπων (-ον-) adj. 'ripe, mild' < **pek^{w}-ōn* and τέκτων (-ον-) m. 'carpenter' < **tetḱ-ōn*. However, a denominal origin has been proposed for πέπων too (if from **pek^{w}u̯-ōn* in view of Skt. *pak-vá-*), while τέκτων is derived from a reduplicated stem and can therefore not be used (cf. s.v. Skt. *tákṣ-an-*, § 2.89). The word for 'dog' (nom.sg. κύων, acc. κύνα, gen. κυνός) follows the productive accentual pattern of root nouns (cf. Vendryes 1938: 219).

As to the suffix -ην, we must omit:

- αὐχήν (-εν-) 'neck, throat', which seems to be derived from the adjective for 'narrow', if it is identical with Aeol. ἄμφην 'id.' < *αγχϝ-ην < *H_2_(e)nǵ_^{h}_u̯-_;
- φρήν, φρενός 'midriff, mind', which is accented as a root-noun;
- ἄρσην (-εν-), Aeol. and Ion. ἔρσην; their proto-form is unclear, because ἄρσην points to *H_2_rs-_ (or *_u̯r̥s-_ with -αρ- instead of phonetically regular -ρα-), while ἔρσην points to *H_1_rs-_.

The remaining material consists of τέρην adj. 'soft, delicate' < *_ter-ēn_ and ἀρήν m. 'ram' < *_ur_H_1_-ēn_ (the laryngeal follows from compounds like πολύρρηνες < *°_ur_H_1_-n-_ and Skt. _úrā_, acc.sg. _úraṇam_ 'ram'; the gen. sg. ἀρνός is secondarily formed on the basis of the nominative). This material is certainly insufficient for a distribution.

SUMMARY

§ **3.29.** The Greek evidence for PIE accentuation is rather limited due to several accent shifts and generalizations, but nevertheless it seems sufficient to confirm the results arrived at in the previous chapter.

The old accentual opposition in the _i_- and _u_-stems has disappeared in Greek: the _i_-stems became barytone, while the _u_-stems created a new opposition, viz. oxytone adjectives vs. barytone substantives. However, original distribution can be found indirectly, in the words which became thematic early and thus escaped the generalization of a uniform accentuation.

The accentological evidence of the Greek _i_- and _u_-stems is therefore limited and is restricted to the first two categories. In Category 1 (roots without stops) we see that the ablaut grade of the root is the conditioning factor for the accentuation: full grade in the root is accented (3x), while zero-grade is unaccented (3x). In Category 2A (one stop roots without initial laryngeal; derivatives with a contiguous stop) the distribution seems to depend on the type of the stop. We find four oxytone words with T in the root vs. one barytone word with D$^{(h)}$. The ablaut grade of the root is irrelevant for the accentuation (full grade is 2x unaccented and 1x accented; zero-grade is 1x accented and 1x unaccented). This distribution, although based on limited material, shows remarkable similarity with the distribution of the _i_- and _u_-stems in Sanskrit (see § 2.34).

The original accentuation of the _o_-stems has been faithfully preserved in Greek with the masculines only. The neuters have generalized barytonesis, while the adjectives are predominantly oxytone. The accentual distribution of the _o_-stems conforms to a great extent to the pattern found in Sanskrit:

- In Category 1 (roots without stops) the ablaut of the root determines the accentuation. We find eleven barytone words with full grade in the root (vs. two oxytone) and two oxytone words with zero-grade in the root.

- On the contrary, in Category 2A (one stop roots without an initial laryngeal; derivatives with a contiguous stop) the ablaut grade of the root is of no importance: words with full grade in the root are 4x barytone and 15x oxytone, while words with zero-grade in the root are but 2x oxytone and 6x barytone. The accentual distribution of Category 2A rather seems to depend on the type of the stop. There are eight barytone words with T vs. four oxytone, and fifteen oxytone words with D$^{(h)}$ vs. two barytone.

The material of the other categories is in itself insufficient to permit conclusions, but in general it confirms the distribution established for Sanskrit, except for Category 4A (roots with two stops; derivatives with two contiguous stops), where (s)T...T shows 3x barytonesis, as opposed to Sanskrit, where we find oxytonesis. Note that the distribution of T in Category 2A is also troublesome.

Another important point of similarity between the Sanskrit and Greek material is the distribution of the *ā*-stems, or rather the absence of any distribution. To my mind, this negative result is a strong confirmation of our analysis.

The *r*-stems do not provide any material, except for the relationship terms which are discussed in §§ 2.87,91. No conclusions can be drawn from the *n*-stems.

The main results are presented in the following tables:

CATEGORY 1. Roots with no stops.

	i- and *u*-stems	*o*-stems
Zero-grade of the root	oxytone (3:0)	oxytone (2:0)
Full grade of the root	barytone (3:0)	barytone (11:2)

CATEGORY. 2. One-stop roots without initial laryngeal.

A. Derivatives with contiguous stops.

	i- and *u*-stems	*o*-stems
T	oxytone (4:0)	barytone (8:4)
D$^{(h)}$	barytone (1:0)	oxytone (14:2)

CHAPTER FOUR

THE GERMANIC EVIDENCE

INTRODUCTION

§ 4.1. The PIE accentuation is reflected in Germanic by the alternation of voiced and voiceless spirants in accordance with Verner's Law. This Law may be formulated as follows: In Proto-Germanic the non-initial spirants **f, þ, x,* x^w, *s* (< PIE **p, t, ḱ,* k^w, *s*) became voiced when not immediately preceded by the PIE accent. The combinations **sk, sp, st, fs, ft, xs, xt* remained voiceless. The resulting pairs **f:ƀ, þ:d, x:ǥ,* x^w:ǥ^w, *s:z* have the following reflexes in the Germanic languages:

PGerm.	Goth.	OIc.	OE	OHG	OS
**f:ƀ*	*f:b*	ambiguous, except for **mf:mƀ > V̄f:mb*	ambiguous, except for **mf:mƀ > V̄f:mb*	*f,v:b*, but mostly unreliable	*f:b*, but mostly unreliable
**þ:d*	*þ:d*	ambiguous, except for **nþ:nd > nn:nd* **lþ:ld > ll:ld*	*þ,d:d*, but *lþ > ld*	*d:t*	*th,d:d*, but *lþ > ld, rþ > rd*
**x:ǥ*	*h:g*	*∅:g*	*∅,h:g*	*h:g*	*h:g*
*x^w:ǥ^w	*ƕ:w(g)*	*∅:(w)*	*∅,h:w(g)*	*h:w(g)*	*h:w(g)*
**s:z*	*s:z*	*s:r*	*s:r*	*s:r*	*s:r*

Thurneysen's dissimilation Law for Gothic[30] disturbed the distribution which resulted from Verner's Law, but this is of little or no importance for our investigation, since Thurneysen's Law operates only in posttonic syllables and therefore concerns words of three or more syllables.

The Germanic nouns which contain Verner variants and can testify to the PIE accentuation are collected in Barber 1932. This collection is very heterogeneous, however, and only a small portion of Barber's material stands the test of the criteria formulated in § 2.4. There are various reasons for the elimination, some of which should be mentioned here in particular.

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[30] "Unmittelbar hinter unbetonten (nicht haupttonigen) Vokalen erscheinen *stimmhafte* Spiranten, wenn in Anlaut der unbetonten Silbe ein stimmloser Konsonant steht; dagegen *stimmlose*, wenn jene Silbe mit einem stimmhaften Konsonanten anlautet (*-tub-*, aber *-duf-*)" (Thurneysen 1898: 209).

Firstly, the alternation between the voiced and voiceless spirants (the so-called "grammatical change") in the verbal paradigm has often been levelled out, and the generalized variant has been introduced in the nouns, too. This especially concerns the productive formations, because their connection with the verb was clearly felt. If the grammatical change was preserved in the verb, the productive nominal formations mostly followed the past participle in its Verner variant. This was, e.g., the case with the Germanic suffixes *-a-* and *-ō-* (PIE *-o-* and *-eH₂-*; for more details see below). Accordingly, these categories have no value for the reconstruction of PIE accentuation.

Another specifically Germanic problem is the merger of stems after the apocope. This merger, which took place to some extent in all Germanic languages except Gothic, led to the expansion of the *a-* and *ō*-stems at the expense of consonantal stems (*i-*, *u-*, *ī-*, *ū-*, *s-*, etc.). In Old English, for example, many *i*-stems can be identified only by their umlaut, in Old High German the *u*-stems are practically extinct, etc. Since the stem formation is of crucial importance for the accentuation, the merger of stems causes many difficulties.

A different kind of problem is the abundance of root enlargements in Germanic. These enlargements often do not occur elsewhere, and therefore it is sometimes impossible to decide whether the enlargement reflects tenues or mediae aspiratae. The derivatives of enlarged roots thus have less weight in the discussion of the original accentual distribution.

Apart from these typically Germanic developments, one should also mention a tendency to generalize a single accentuation of a suffix (cf. § 1.18). An example of this generalization is the pervasive barytonesis of the suffixes *-ma-*, *-þra-* and *-þla-* or the oxytonesis of the *i*-stems (see below).

The following survey of the Germanic evidence for PIE accentuation is not intended to be exhaustive. I have used Barber's book as the main source and omitted the etymologically obscure words as well as denominative formations, compounds, etc. The omitted words are not always cited in full in order not to overburden the text with details. They can easily be traced back in Barber's book. The justification for omitting them and for question marks in the material can be found in the major etymological dictionaries of the Germanic languages, like Feist, de Vries, Holthausen, etc. In the following survey I shall only cite those languages where the reflexes of the spirants in a particular word can be clearly seen. For the complete material I refer to the etymological dictionaries.

For the selection, presentation and evaluation of the material see §§ 2.4ff.

THE *i*- AND *u*-STEMS

THE *i*-STEMS

§ **4.2.** As was already seen by Barber (17f.), the *i*-stems are mostly oxytone in Germanic, except for Gothic where both accentuations are found. The few barytona outside Gothic mentioned by Barber can be left out of consideration because they are:

(1) etymologically obscure (masculina OE *fyrs*, OIc. *gyss*, *risi*, *þurs*, *yss*, feminina OIc. *dís*, OHG *tuld*, OE *þrȳþ*, MHG *vut*);

(2) formed from etymologically unclear roots (OE *brǣþ* 'breath' from PGerm. **brēþ*- containing a peculiar element *-*ēþ* of unknown origin; OE *hrēþ* m.n. 'victory, glory' from PGerm. **hrō*- < **kreH$_2$*- or **kreH$_3$*-, a root which, in spite of the statements of the etymologica, cannot be directly combined with Skt. *kārú*-, Gr. κῆρυξ 'herald' < **keH$_2$r*-);

(3) denominal formations: OIc. *gríss*, OE *næs*;

(4) not an *i*-stem: OIc. *fló*, OE *hriþ* (in OE we would expect a final -*e*).

In those words, where both accentuations are attested, the oxytonesis is more reliable (for the Gothic barytona see below), cf. OE *scriþe* vs. OE *scride*, OHG *scrit*, MHG *schrit*; ModG *Absud* vs. OE *syde*, MHG *sut*, etc.

The only certain non-Gothic barytonon seems to be OE *mǣþ* f. 'measure, degree; honour, respect' < **méH$_1$-ti*-, which has somehow escaped the generalization of the oxytonesis.

In Gothic the situation is different. We here find several certain barytone *i*-stems, often opposed to the oxytone ones in other Germanic languages. The Gothic barytone forms are mostly explained as secondary, due to the bias of Gothic in favour of voiceless spirants. As a matter of fact, this bias concerns only the verb, and outside the *i*-stems Gothic shows sometimes an oxytone variant vs. a barytone one in other languages (e.g., Goth. *fairzna* 'heel' vs. OHG *fersana*, OS *fersna*; Goth. *anza* dat.sg. 'beam' vs. OIc. *áss*, etc.).

It therefore seems certain that Gothic preserved the accentual opposition in the *i*-stems while the other Germanic languages generalized the oxytonesis. This probably happened because all Germanic languages except Gothic adopted the hysterodynamic inflexion of the *i*-stems. The proterodynamic type was preserved in Gothic, as is clear from the gen.pl. ending -*ē* < *-*eiom* (Kortlandt 1978a: 292).

§ **4.3.** THE EVIDENCE.

It follows that only the Gothic evidence is relevant for the accentuation of the *i*-stems. The following words from Barber's Gothic material are omitted:

(1) Words of uncertain etymology and/or stem formation: _brūþs_ 'bride', _drus_ 'fall', _dulþs_ 'feast', _gafāh_ 'catch', _griþs_ 'step', _hugs_ 'mind', _hunþs_ 'imprisonment', _saiws_ 'sea', _sauþs_ 'sacrifice' (this word has _-d-_, but Barber gives it under the barytona), _slahs_ 'stroke', _þlauhs_ 'fight'; problematic is the relation of the two hapaxes _gakunds_ and _gakunþs_;

(2) Denominal formations _gamainþs_ 'assembly' and _wrōhs_ 'accusation' (an original root-noun, as is clear from the lengthened grade);

(3) Non-existent _wulþrs_ (as Bammesberger 1972: 55 has shown, _wulþris_ is a neuter comparative of _wulþra_);

(4) Compounds. I see no reason to discard compounds with a preverb as a first member (e.g. _ga-qumþs, ga-munds_) because they do not show categorial accentuation. The preverb (in our material only _ga-_) probably did not change the original accentuation, being a late addition in order to conform the cognate verb (cf. Benveniste 1960: 168). On the other hand, the second members of compounds with a nominal first member are accentologically unreliable. It seems that these compounds (mostly of the _tatpuruṣa_-type, cf. Goth. _manasēþs_ 'mankind', lit. 'manseed') were accented on the first member, an accentuation which is also found in some types of Greek and Sanskrit _tatpuruṣa_-compounds (cf. AiGr. II,1: 263). Accordingly, the accentuation of the following words is ambiguous:

°_faþs_ (_-d-_) in _brūþfaþs_ 'bridegroom', _hundafaþs_ 'centurio', etc. < _*pot-i-_;

°_sēþs_ (_-d-_) in _manasēþs_ 'mankind' < _*seH_$_1$_-ti-_;

°_wizns_ in _andawizns_ 'necessity', _wailawizns_ 'nourishment'; also _gawizneigs_ 'rejoicing' cannot warrant the oxytonesis of the simplex _*wizns_ because the suffix _-eigs_ < _*-īkó-_ was always oxytone in Germanic (Barber: 131).

For the accented first members of compounds cf. also Goth. _awi-liuþ_ (_-d-_) 'gratitude' vs. OE _lēoþ_, OHG _liod_ 'song' which point to barytonesis.

Barytona

+ _ga-taurþs_ f. 'destruction' < _*dr-ti-_.

+ _ga-baurþs_ f. 'birth' < _*b_^{h}_r-ti-_ (vs. OE _ʒibyrd_, OHG _giburt_). Cf. also s.v. Skt. _bhr̥-tí-_.

+ _ga-qumþs_ f. 'assembly' < _*g_^{w}_m-ti-_ (vs. OIc. _samkund_, OHG _cumft_).

+ _nauþs_ f. 'need' < _*noHu-ti-_. The position of the laryngeal follows from ORuss. _navь_ 'corpse', Czech. _u-naviti_ 'ermüden'.

Oxytona

+ _alds_ f. 'age' < _*H_$_2$_el-ti-_.

+ _siuns_ f. 'sight, appearance' < _*sek_^{w}_-ni-_.

+ *ga-dēþs* f. (*-d-*) 'deed' < **d^heH_1-ti-*; °*dēþs* is frequently used in compounds (*wailadēþs* 'benefit' and *missadēþs* 'misdeed'), only once it occurs with a preverb, viz. E.1,5 *du suniwe gadedai* 'εἰς υἱοθεσίαν' 'unto the adoption of children'.

+ *ga-faurds* f. 'assembly' < **pr-ti-* (cf. Meid 1967: 155).

? *haurds* f. 'door' < **krH-ti-* if connected with Lat. *crātis* 'wickerwork'.

+ *knōdai* dat.sg. f. 'kin' < **$ǵnoH_1$-ti-* or **$ǵneH_3$-ti-*.

+ *ga-munds* f. 'remembrance' < **mn-ti-*.

+ *staþs (-d-)* m. 'place, neighbourhood' < **stH_2-ti-*.

THE *u*-STEMS

§ **4.4.** In contradistinction to the *i*-stems, the *u*-stems do not show a categorial accentuation, except for neuters, which are barytone just as in Sanskrit and Greek. OE *cwidu, cweodu* n. 'resin', mentioned by Barber (p.38f.) as an exception, is a *wa*-stem and therefore a late thematicization of PIE **$g^{w}etu$*, cf. Skt. *játu* n. 'lac, gum'.

It should be borne in mind, however, that outside Gothic and, to some extent, Old Icelandic, there are only remnants of the *u*-stems in Germanic, and the reconstruction of an *u*-stem was often based on insufficient grounds.

§ **4.5.** THE EVIDENCE.

The following words from Barber's material are omitted:

(1) Words of uncertain etymology: masculina OIc. *áss* 'God', OHG *hugu* 'sense', Goth. *fairƕus* 'world', Goth. *magus* 'boy, servant', OIc. *plógr* 'plough', Goth. *qiþus* 'womb', OIc. *vǫllr* 'field', Goth. *wairdus* 'host', etc.; feminina Goth. *grundu* 'ground', Goth. *handus* 'hand', OIc. *tǫng* 'tongs', etc.; adjective OE *tōh* 'tough';

(2) Denominal Goth. *wiþrus* 'wether';

(3) Only in compounds occurs Goth. °*wards* 'ward' (an *a*-stem; an *u*-stem is OIc. *vǫrðr*, but its accentuation cannot be determined);

(4) No evidence for an *u*-stem can be found for OIc. *for* f. 'furrow', OE *mearþ* 'marten', OS *smōdi* 'smooth', etc.

(5) The difference between Goth. *þaursus* 'dry' and a *ja*-stem found in OIc. *þurr*, OE *þyrre*, etc. should not be attributed to the stem, but to the generalization of *-rs-* in the Gothic verb (*ga-þairsan, þaursjan*, etc.) vs. the generalized **-rz-* > *-rr-* elsewhere (OIc. *þerra*, OE *ā-þierran, þyrran*, OHG *derren*, etc.).

Barytona

+ Goth. *dauþus*, OHG *tōd* m. 'death' < **d^hou-tu-*.

? OE *friþu*, OHG *fridu* m. 'peace' < **pri(H)-tu-*. The short vowel indicates that this word is probably a Germanic formation based on _*frija-_ < _*priH-o-_ 'free'.

? Goth. _liþus_ m. 'limb', OHG _lid_ < _*li-tu-_, if connected with Lat. _lituus_ 'bent staff of augurs'. Further connections are uncertain.

+ OIc. _mǫrr_ m. 'fat of intestines' < _*mork-u-_.

+ Goth. _seiþus_ (in _seiþu warþ_ 'the evening came') is probably an original masc. _-tu-_ abstractum 'relaxation, cessation' < _*seH_$_1$_i-tu-_ (Lühr 1978). The adjective forms (OE _siþ_, OIc. _sið_, etc. 'late') are then secondary.

+ OHG _wisu-_ 'good' in names _Wisu-rīh, Wisi-mār_ (cf. Feist 298) < _*H_$_1$_ues-u-_.

+ Goth. _wulþus_ m. 'glory' < _*ul-tu-_.

Oxytona

+ OE _eards_, OS _ard_ m. 'native country' < _*H_$_2$_erH_$_3$_-tu-_.

+ Goth. _flōdus_ m. 'flood' < _*pleH_$_3$_-tu-_.

+ OE _ford_ m. 'ford' < _*pr-tu-_.

+ Goth. _haidus_ m. 'art, manner' < _*(s)koit-u-_.

+ Goth. _hardus_ adj. 'hard' < _*kort-u-_.

+ OIc. _lǫgr_, OE _lagu_ m. 'pond, sea' < _*lHk-u-_. For vocalization see Beekes forthc. _b_.

- Goth. _skadus_ m. 'shadow' < _*skH_$_3$_-tu-_ or _*skot-u-_. For the etymology of this word see s.v. Gr. σκότ-ος (§ 3.8).

+ Goth. _skildus_, OIc. _skjǫldr_ m. 'shield' < _*skel(H)-tu-_.

+ OE _þrǣd_, OHG _drāt_ m. 'thread' < _*treH_$_1$_-tu-_.

? OIc. _vǫrr_$_1$ m. 'stroke of an oar' < _*uors-u-_ (the connection with Lat. _versus_ 'line' is improbable, as the Latin word is derived from the root _*uert-_, Walde-Hofmann 2, 763).

? OIc. _vǫrr_$_2$ f. 'lip' < _*uors-u-_.

Evaluation of the *i*- and *u*-stems

§ 4.6.

CATEGORY 1. Roots without stops.

Barytona: (+) OE _mǣþ_, Goth. _nauþs_, _seiþus_, _wulþus_, OHG _wis°_;
(?) Goth. _liþus_;
Oxytona: (+) Goth. _alds_, OE _eard_, Goth. _ga-munds_;
(?) OIc. _vǫrr_$_1$, OIc. _vǫrr_$_2$;

The distribution according to the ablaut grade of the root established for Sanskrit and Greek cannot be demonstrated for Germanic: we see a barytone zero-grade Goth. _wulþus_ and oxytone full grades Goth. _alds_, OE *eard*. This is quite understandable, however. In Germanic, the PIE ablaut was subject to many transformations. In some roots it was given up, in other replaced by productive Germanic patterns. It is therefore not surprising that a distribution based on the ablaut-grade of the root has not been preserved.

Category 2. One-stop roots without an initial laryngeal.

A. Derivatives with a contiguous stop.

T Barytona: none;
Oxytona: (+) Goth. *ga-faurds*, OE *ford*, Goth. *siuns*, *skildus*, *staþs*;
D$^{(h)}$ Barytona: (+) Goth. *ga-baurþs*, *dauþus*, *ga-qumþs*, *ga-taurþs*;
Oxytona: (+) Goth. *ga-dēþs*.

The distribution is clear: T yields oxytonesis, D$^{(h)}$ yields barytonesis. The oxytonesis of Goth. *ga-dēþs* is probably due to the frequent use of °*dēþs* in compounds (see s.v.).

B. Derivatives with a non-contiguous stop.

Barytona: (+) OIc. *mǫrr*;
(?) OE *friþu*;
Oxytona: (+) Goth. *flōdus*, Goth. *knōds*, OE *þrǣd*.

The material does not allow to find a distribution, but if the ablaut of the root was a determining factor (see § 2.34), it is important to note that the PGerm. roots **fri-*, *flō-*, *þrǣ-* show no ablaut.

Category 3. One-stop roots with an initial laryngeal.

No evidence.

Category 4. Two-stop roots.

A. Derivatives with two contiguous stops.

No evidence.

B. Derivatives with one contiguous stop.

T...T Barytona: none.
Oxytona: (+) Goth. *haidus*, *hardus*.

C. Derivatives with two non-contiguous stops.

No evidence.

THE *a*-STEMS

§ **4.7.** The *a*-stems are very productive in Germanic and after the apocope behaved as a kind of magnet attracting words of other stems. For many *a*-stems it is indeed impossible to determine whether they are original *a*-stems or have been transferred to the *a*-stems secondarily.

Another aspect of the productivity of the *a*-stems is their bias in favour of regularity. Many suffixes show a uniform accentuation, which diminishes their value as evidence.

Let us consider these suffixes first.

The suffix *-ma-*

§ **4.8.** All words containing this suffix in Germanic are barytone, cf. OE *fæþm*, OHG *fadam* 'fathom' < **pót-mo-*; OE *māþm*, Goth. *maiþms* 'gift' < **móit-mo-*, MHG *swadem* 'vapour' < **suót-mo-*, etc. Also the secondary Germanic suffix *-þma-* (cf. Meid 1967: 125f.) appears only in this form, which points to barytonesis (e.g., OHG *chrādam*, MHG *blādem*). I found only two apparent exceptions:

(1) OHG *zoum* 'bridle', OE *tēam* 'family, team' goes probably back not to PGerm. **taug-ma-*, but to PGerm. **tau-ma-* < PIE **dou-mo-*, in view of the meanings 'offspring, race' of OE *tēam*, OFr. *tām*, MLG *tōm* (cf. de Vries 584, Franck-van Wijk 701f.);

(2) OHG *ātum* 'breath' is the only oxytone form of this word, which is barytone in other Germanic languages: OE *ǣþm*, OS *āthum*, cf. also OHG *adhmōt* (Isid.).

The suffixes *-þra-* and *-þla-*

§ **4.9.** These suffixes (both m. and n.) show pervasive barytonesis in Germanic (Barber 65), cf. OHG *flōdar* 'flowing', Goth. *maurþr* 'murder', OE *hlēoþor* 'hearing', MLG *spēdel* 'spittle', etc. The few instances of PGerm. **-dra-*, *-dla-* may go back to PIE **-d^{h}ro-*, *-d^{h}lo-*:

(1) OIc. *galdr* m., OHG *galtar* 'magic song', if connected with Gr. χελῑδών 'swallow'. However, the primary meaning of this Germanic root seems to be 'to sing magic formula's' (de Vries 170), which makes the connection doubtful.

(2) OS *aldar*, OHG *altar* n. 'age, eternity', Goth. *fram-aldrs* 'old' is explained by Feist 164 as a *-ra-* formation. In any case, the influence of Germ. **alda-* 'old' is probable.

(3) OS *maldar*, OHG *maltar* n. 'grain measure (= one milling)'.

(4) Goth. *fōdr*, OE *fōdor*, OHG *fōtar, fuotar* n. 'sheath, covering, case' has a barytone variant OE *fōþer* 'id.' which corresponds to Skt. *pā́tra-*

‘receptacle, vessel’. On the other hand, there are two more Germanic words of the same shape, viz. OE _fōþor_, OS _fōther_, OHG _fuodar_ n. ‘load, cart-load’ (either the same word or a lengthened grade formation from the PIE *$\sqrt{}$_pet-_ ‘to enclose’) and OE _fōdor_, MLG _vōder_, OHG _fuotar_ n. ‘fodder, food’ (from the PIE root *_pe_H_2_t-_). These word families were probably mixed up in OE, which could then explain the aberrant accentuation of OE _fōþer_ ‘sheath’.

(5) Different accentuations show also OHG _bīhal_, MHG _bīhal_, _bīl_ n. ‘axe’ < *b^h_eí-tlo-_ and OE _bill_, OS _bil_ ‘sword’ < *b^h_i-tló-_ or b^h_i-_d^h_lo-_. The latter reconstruction seems possible.

(6) Goth. _nadre_ gen.pl. m. ‘adder’ goes back to *_nH-tró-_, but this is hardly an old form. The variety of stems (OE _nǣddre_, OS _nādra_, OHG _nātara_ go back to Germ. *_nētrā́_, OIc. _naðra_ f. probably to *_n_H_1_trā́_, Welsh _neidr_ is an old _ī_-stem, enlarged in OIr. _nathir_ and Lat. _natrīx_ by the suffix -_k_-) points to an old *_ne_H_1_-tr-_/*_n_H_1_-tr-_ (cf. Pedersen VGK II, 45) from the root *_(s)ne_H_1- ‘to spin’. For the development *$n\underset{\circ}{H}C$- > _naC_ see now Beekes forthc. _b_.

The suffix -_ra_-

§ 4.10. As in Sanskrit and Greek, the adjectives with this suffix are oxytone in Germanic, cf. OIc. _magr_, OHG _magar_ ‘lean, thin’ < *$m\underset{\circ}{H}_2\acute{k}$-_ró-_ (for vocalization see Beekes forthc. _b_), OHG _heitar_, OE _hādor_ ‘bright’ < *_(s)koit-ró-_, Goth. _fagrs_ ‘suitable’ < *$pH_2\acute{k}$-_ró-_.

Unfortunately, there are no substantives in -_ra_- in Barber’s material, the etymology of which is certain. With a question mark can be mentioned only OIc. _angr_ m. ‘bay, fjord’, OS and OHG _angar_ ‘grass-plot, meadow’ < *$H_2en\acute{k}$-_ró-_.

The old etymology deriving Goth. _figgrs_, OIc. _fingr_ m. ‘finger’ < *_penk_^{w}_-ro-_ from the Germ. root *_fa(n)h-_ (PIE *_pe_$H_2\acute{k}$-) ‘to catch’ is improbable in view of the vocalism. This word is probably a denominative formation from the word for ‘five’.

The suffix -_þa_-

§ 4.11. Adjectives in -_to_- which reflect original participles show oxytonesis in Germanic in conformity with Sanskrit and Greek. Some examples: OHG _alt_ ‘old’ < *H_2_el/ol-tó-_, Goth. _kalds_ ‘cold’ < *_gol-tó-_, Goth. _sads_, OHG _sat_ ‘satisfied’ < *sH_2_-tó-_, etc. A notable exception is the participle Goth. _kunþs_, OHG _kund_, OIc. _kunnr_ ‘known’ < *$\acute{g}nH_3$_-to-_. In order to explain its accentuation we may possibly assume that root stress was generalized in the old perfect (Kortlandt 1981: 13).

On the other hand, substantives with this suffix are mostly barytone, cf. Goth. _aiþs_ m. 'oath' < *H_1_ói-to-_, OHG _herd_ m. 'hearth' < *_kér(H)-to-_, OE _bæþ_ n. 'bath' < *_b_^{h}_áto-_ < *_b_^{h}H_1_-to-_, Goth. _staþa_ dat. sg., OHG _stad_ 'bank, shore' < *_státo-_ < *_st_H_2_-to-_, Goth. _gulþ_ n. 'gold' < *_ǵ_^{h}_ĺ(H)-to-_, OE _mǣþ_ n. 'cutting of grass' < *H_2_mé_H_1_-to-_, OE _morþ_ n.m. 'death, murder' < *_mŕ-to-_, etc.

There are several exceptions, but they rather represent substantivized participles, as can be induced from their meaning (the barytona are nomina actionis):

(1) OE _god_, OHG _got_ m. 'god' < *_ǵ_^{h}_u-tó-_ is an old substantivized participle (originally a neuter) of the root *_ǵ_^{h}_eu-_ 'to libate, offer', meaning 'libated, the libated one', cf. for the semantic development Av. _yazata-_ 'god', derived from the root _yaz-_ 'to offer, worship'. The usual etymology connecting the Germanic word for 'god' with the PIE root *_ǵ_^{h}_euH-_ 'to invoke' is less probable in view of the short vowel in Germanic.

(2) OS _kind_ n. 'child' < *_ǵen_H_1_-tó-_, cf. Av. _zanta-_ 'born'. The barytonesis in OHG _kind_ 'id.' is then analogical.[31]

(3) OE _sēod_ m. 'purse' < *_siuH-tó-_, lit. 'sewn'.

The other exceptions can be explained as follows:

(4) OE _sǣd_, OS _sād_ n. 'seed' is probably an old _-ti_-derivative of the root *_se_H_1_-_, cf. OHG _sāt_ f. 'seed', Goth. _manasēþs_ f. 'mankind', OIc. _sáð_ f. 'chaff'. For OE the transition of fem. _i_-stems with long stem-syllable to neuter _o_-stems is quite regular, cf. _gebyrd_ n. 'birth', _gecynd_ n. 'nature', etc. Only the OS neuter gender presents a difficulty because the old fem. _i_-stems became masculine _o_-stems. The OS gender is possibly due to the synonymous and cognate _sāmo_ 'seed'.

(5) OE _snūd_ 'speed' has probably the spirant of the adjective _snūd_ 'quick, quickly approaching' < *_snuH-tó-_, cf. also OE _sceard_ n. 'incision' and _sceard_ adj. 'cut, mutilated'.

(6) Several words in *_-đa-_ do not contain the suffix _-to-_, but are derived from an enlarged root, cf. OE _hlid_ n. 'lid' and _hlīdan_ 'to cover' < *_ḱlei-t-_ (OE _hliþ_ n. 'cliff, slope' may be derived from the unenlarged root, which seems quite plausible from a semantic point of view); OIc. _hold_ n. 'meat' and OIc. _hylda_ 'to cut meat from bones' < *_(s)kel(H)-t-_.

The situation in Germanic (adjectives oxytone, nouns barytone except for some old substantivized adjectives) is reminiscent of that in Greek

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[31] Alternatively, we can assume some secondary development in Old Saxon, cf. OS _tand_ 'tooth' vs. OE _tōþ_, OIc. _tǫnn_, OHG _zand_, _zan_. Sometimes we find both variants in Old Saxon (OS _mund/muth_ 'mouth' vs. OE _mūþ_, OHG _mund_, Goth. _munþs_ and OS _andar/āthar_, _ōthar_ 'other' vs. Goth. _anþar_, OE _ōþer_, OIc. _annar_) and in Old Frisian (_tōth/tond_, _mūth/mund_).

(see above, § 3.15). The barytone nomina actionis in *-to-* arose probably on the analogy of the suffix *-o-*. But whatever the origin of this category may be, it is clear that the suffix *-þa-* in Germanic cannot bear testimony to the PIE accentual distribution.

The suffix *-ja-*

§ 4.12. This suffix, in contradistinction to the previous ones, does not show a uniform accentuation pattern, but nevertheless cannot be used. The Germanic substantives in *-ja-* are mostly derived from class I verbs in *-jan* (Meid 1967: 70). They are late formations, containing the spirant of the verb. The few old masculines in *-ja-* are thematicizations of original *i*-stems (cf. OIc. *seggr*, OE *secg* 'man, warrior', Lat. *socius* vs. Skt. *sákhā, sákhi-* m. 'friend, companion').

The *-ja-* adjectives are not reliable either. Outside Gothic, in all Germanic languages the *i-* and *u*-stem adjectives merged with the *-ja-* adjectives, and it is usually impossible to determine the original stem of a *-ja*-adjective. The *-þja-* adjectives, which are a Germanic formation, are usually barytone (e.g., Goth. *alþeis* 'old', OHG *muodi* 'tired', etc.).

The suffix *-a-*

§ 4.13. The suffix *-a-* is very productive in Germanic. Almost every verbal root has a derivative in *-a-*, and for the speaker of Germanic languages there has always been a close connection between the verb and the *a*-derivative. Consequently, the form of the verbal root was mostly decisive for the choice of the spirant. If a verb gave up the grammatical change, generalizing the voiced or voiceless spirant, its *a*-derivative adopted the same spirant, whatever the original variant may have been. For instance, the PGerm. root **felþ-* 'to fold' < **pelt-* shows no grammatical change except for OHG, where *faldan* still has past participle *gifaltan*. The levelling started in OHG too: we find on the one hand part. *gifaldan*, and, on the other hand, forms with *-t-* in the present (Braune 1925: 282). The other languages generalized the voiced spirant *-d-*, except for Gothic, which has the voiceless spirant *-þ-*. Compare now the *a*-derivatives of this root: Goth. °*falþs*, OHG °*fald* and °*falt*, the simplex *vald*, OIc. *faldr*, OS *fald*, OE °*feald* '-fold'.

When a verb preserved the grammatical change, its *a*-derivative took the voiced spirant of the past participle, cf. OIc. *frør*, *frer* 'frost' derived from the verb *frjósa* 'to freeze' (*frýs*; *fraus*, *frørom*; *frørenn*) vs. Goth. *frius* 'frost' (the Gothic verb is not preserved, but we would expect an *-s-* in all forms); OIc. *slag* n. 'blow' from the verb *slá* 'to strike, blow' (*slæ*; *sló*, *slógon*; *slegenn*); OHG *giziug* 'utensils' from the verb *ziohan* 'to pull' (*ziuhu*; *zōh*, *zugum*; *gizogan*), etc.

The following example is instructive. OIc. *spjall*, *spell* n. 'destruction' has the spiral of the weak verb *spella* 'to destruct' < *_spelt-_, while the semantically more remote *spjald*, *speld* n. 'wooden disc, broad' has preserved the voiced spirant of the lost past participle, cf. the generalized voiced spirant in OHG *spaltan*, MLG *spaldan* 'to split'.

Consequently, Germanic deverbative *a*-derivatives do not provide evidence for the PIE accentuation since they adopt the spirant of the verb or, in case of the grammatical change, the voiced spirant of the past participle (the only exception seems to be OHG *lōs*, Goth. *laus* 'free', which, though derived from the root *_(fra-)leus-_ 'to loose', Goth. *fraliusan*, OHG *fur-liosan*, was not felt as belonging to the verb and did not adopt the voiced spirant of the past participle OHG *fur-loran*, OE *forlorn*).

Moreover, isolated *a*-derivatives, i.e. words derived from verbs not attested in Germanic, cannot often be used either. As a matter of fact, these words were not isolated in PIE and could acquire their accentuation in accordance with the τόμος/τομός distribution, which was of PIE date (cf. §§ 2.47). Therefore, we must omit nomina concreta (cf. § 2.43), viz. OIc. *fors*, *foss* m. 'waterfall' < *_pŕs-o-_, OE *hōh* m. 'hough' < *_k^{w}ónk-o-_, OE *lēah* m. 'lea', OHG *lōh* 'wood' < *_lóuk-o-_, OHG *seh* n. 'plough' < *_sék-o-_, OE *þeoh* n. 'thigh' < *_téuk-o-_, OIc. *teigr* n. 'meadow' < *_doiḱ-ó-_. It follows that we can use only nouns of non-deverbal origin (like words for 'wolf', 'shoulder', etc.).

Apart from the deverbal derivatives, we must leave out of consideration two word pairs which show different accentuation: Goth. *(un-)wāhs*, OE *wōh* 'crooked, wrong' < *_uónk-o-_ vs. Goth. *wagg* acc.sg. 'meadow', OIc. *vangr* m. 'field' < *_uonk-ó-_; Goth. *hauhs* 'high' < *_k^{w}óuk-o-_ vs. OIc. *haugr* m. 'hill' < *_k^{w}ouk-ó-_. *A priori*, one would expect adjectives to be primary, but, firstly, the substantivized adjectives do not change the accentuation (cf. OE *wōh* n. 'crookedness, error'), and, secondly, it is far from certain that the substantives are derived from the adjectives in this case. A possible solution is that these nouns were derived from a verb which has not been preserved in Germanic.

§ 4.14. THE EVIDENCE.

Omitting words of uncertain etymology and denominal formations, we arrive at the following list of derivatives in *-a-*.

Barytona

+ Goth. *ams* m. 'shoulder' < *_Homs-o-_.
+ OIc. *ars* m. 'arse' < *_H_$_1$_ors-o-_.

- OE *eolh* m. 'elk' < *H_1el-ḱo-. This word is probably an original ḱ-stem, cf. Skt. *ṛ́śya-* 'he-antelope' < *H_1l-ḱ-io-.
+ OHG and OS *fēh* adj. 'spotted' < *poiḱ-o-.
+ Goth. *haihs* adj. 'one-eyed' < *keH_2i-ko-. The word most probably contains the suffix *-ko-* because the root structure *keH_2ik- is hardly possible.
+ OIc. *hauss* m. 'skull' < *(s)kous-o-.
+ OE *īs* n., OHG and OS *īs* m. 'ice' < *H_1eis-o-.
+ Goth. *laus*, OHG *lōs* adj. 'loose, free' < *lous-o- (see § 4.13 above).
? OIc. *marr*, OE *mearh* m. 'horse' < *mork-o- (only Celto-Germanic).
- OE *mēos* m. 'moss' and *mos* n. 'marsh' < *meus-o-/ mus-o-. The ablaut within Germanic points to an original root-noun.
+ Goth. *munþs*, OHG *mund* m. 'mouth' < *mnt-o-.
? OHG *rūh* adj. 'rough' < *HruHk-o-. The structure of the root is troublesome.
+ OE *þrōh* adj. 'rank' < *tronk-o-.
+ Goth. *wulfs* m. 'wolf' < *ulk^w-o- or *ulp-o-.

Oxytona

+ OIc. *berr*, OE *bær* adj. 'bare-footed' < *b^hos-o-.
+ Goth. *dius* (-z-), OIc. *dýr* n. 'animal' < *d^heus-o-.
+ OIc. *hlýr* n. 'cheek' < *ḱleus-o-.
- OE *sēar* adj. 'dry' < *H_2sous-o- is a thematicized perfect participle in *-us-* derived form the root *H_2es- 'to be dry' (Lubotsky 1985).
+ OIc. *stag* n. 'stay' < *stok-o-.
- Goth. *wōds*, OE *wōd* adj. 'raging' < *ue/oH_2t-o-. The variety of meaning (cf. nomen actionis OIc. *óðr* 'poetry', OHG *wuot* 'anger' and barytone OE *wōþ* 'singing, speaking') and of stem formation in other languages (i-stem OIr. *fáith* 'prophet', ē-stem in Lat. *vātēs* 'seer', ā-stem in OE *wōþ*) points to an original root-noun.

The suffixes *-na-*, *-la-*, *-sa-*, *-ua-*

§ **4.15.** These suffixes show no uniform accentuation and no secondary developments and may be presented together.

Barytona

+ OE *eoh* m. 'horse' < *H_1eḱ-uo-.
+ Goth. *aþn* n(?). 'year' < *H_2et-no-.
? OE *basu* adj. 'purple' < *$b^h H_2$s-uo-. The etymology connecting

MIr. *basc* 'red' does not seem certain. The suffix *-uo-* can be secondary in parallel to OE *hasu* 'grey'.

+ OHG *faro* adj. 'coloured' < **porḱ-uo-*.
? Goth. *hals* m. 'neck' < **k*$^{(w)}$*ol-so-*. This word is probably an original *-s*-stem.
+ OHG *hasan* adj. 'bright' < **ḱH*$_1$*s-no-*.
+ OE *hasu*, OIc. *hǫss* adj. 'grey' < **ḱH*$_1$*s-uo-*.
+ OIc. *lán* n. 'fief, loan' < **loik*^{w}*-no-*.
+ OHG *stahal*, OIc. *stál* n. 'steel' < **stok-lo-*.
+ Goth. *þwahl* n. 'bath', OIc. *þváll* n. 'soap' < **tuoḱ-lo-*.

Oxytona

+ OIc. *geirr*, OHG *gēr* m. 'spear, dart' < **ǵ*^{h}*eH*$_2$*i-so-*.
? OIc. *segl* n. OHG *segal* m. 'sail' < **sek-lo-*.
+ OIc. and Goth. *tagl* n. 'hair', OHG *zagel* m. 'tail-hair' < **doḱ-lo-*.
+ Goth. *þius*, OHG *deo* m. 'servant' < **tek*^{w}*-uo-*.

Evaluation of the *a*-stems

§ 4.16.

CATEGORY 1. Roots without stops.

Barytona: (+) Goth. *ams*, OIc. *ars*, OE *īs*, Goth. *laus*;
Oxytona: none.

All words with full grade in the root are barytone in conformity with the distribution established for Sanskrit and Greek.

CATEGORY 2. One-stop roots without an initial laryngeal.

A. Derivatives with a contiguous stop.

T	Barytona:	(+)	Goth. *haihs*, OHG *hasan*, OE *hasu*, OIc. *hauss*, Goth. *munþs*, Goth. *wulfs*;
		(?)	Goth. *hals*;
	Oxytona:	(?)	OIc. *segl*;
D$^{(h)}$	Barytona:	(?)	OE *basu*;
	Oxytona:	(+)	OIc. *berr*, Goth. *dius*, OIc. *geirr*.

Barytonesis of T (6:0) and oxytonesis of D$^{(h)}$ (3:0) are certain.

B. Derivatives with a non-contiguous stop.

Barytona: (+) OIc. *lán*;
(?) OIc. *marr*;
Oxytona: (+) OIc. *hlýr*.

The distribution based on the ablaut grade of the root, which was proposed for Sanskrit and Greek, cannot here be demonstrated.

Category 3. One-stop roots with an initial laryngeal.

A. Derivatives with a contiguous stop.

Barytona: (+) Goth. *aþn*, OE *eoh*;
(?) OHG *rūh*.

The evidence is small, but the distribution in accordance with the ablaut grade of the root proposed for Sanskrit and Greek seems possible here.

B. Derivatives with a non-contiguous stop.

Oxytona: (?) OIc. *angr*;

Category 4. Two-stop roots.

A. Derivatives with two contiguous stops.

(s)T...T Barytona: (+) OHG *stahal*;
Oxytona: (+) OIc. *stag*;
T...T Barytona: none;
Oxytona: (+) OIc. *þegn*, Goth. *þius*;
D...T Barytona: none;
Oxytona: (+) Goth. *tagl*.

B. Derivatives with one contiguous stop.

T...T Barytona: (+) OHG *faro*, OS *fēh*, Goth. *þwahl*;
Oxytona: none.

Barytonesis of T...T seems certain (3:0).

C. Derivatives with two non-contiguous stops.

T...T Barytona: (+) OE *þrōh*;
Oxytona: none.

THE LARYNGEAL STEMS

THE ī- AND ū-STEMS

§ 4.17. The Indo-European iH_2- and uH_2-stems have become obsolete in Germanic (Meid 1967: 67ff.). The traces of these stems often point to oxytonesis (OIc. *ylgr* 'she-wolf' < $^*ulk^w\text{-}\acute{\imath}H_2$-, Goth. *þiwi* 'maiden' < $^*tek^w\text{-}\acute{\imath}H_2$, etc.), which runs parallel with the situation found in Sanskrit (cf. § 2.76).

THE ō-STEMS (PIE ā-STEMS)

§ 4.18. *The suffix -ō-*. This suffix is productive in Germanic forming nomina actionis. The choice of the spirant in deverbative ō-derivatives depends on the form of the verbal root in the separate Germanic languages: if the verb gave up the grammatical change, its spirant was generalized in the ō-derivative (OE *lār* 'rule, advice' ~ *lǣran* 'to teach, advise', OIc. *cþǫng* 'Gedränge' ~ *þryngva* 'dringen', etc.); if the verb preserved the grammatical change, the ō-derivative took the voiced spirant of the past participle (OIc. *slaga* 'blow' ~ past part. *gislagan* 'to strike', OIc. *taug* 'sail' ~ past part. *togenn* 'to draw', OE *-woru* 'inhabitants' ~ past part. *-woran* 'to be'). The same situation is found with the suffix *-a-* (cf. § 4.13).

The suffix *-ō-* forms also denominativa (OIc. *nǫs* 'nose' < $^*nH_2s\text{-}eH_2$-, OE *earh* 'arrow' < $^*H_2erku\text{-}eH_2$-, etc.) and abstracta (OHG *bōsa* 'wickedness'), which follow the accentuation of the original word and cannot therefore be used.

§ 4.19. *The suffix (þ)jō-*. The suffixes *-jō-* and *-þjō-* form mostly denominativa (Meid 1967: 72). The few deverbative nomina actionis are barytone, cf. OIc. *gunnr* 'fight' < $^*\acute{g}^h\acute{n}\text{-}tyeH_2$-.

§ 4.20. *The suffix -þō-*. The deverbative derivatives in *-þō-* are always oxytone, cf. OHG *hlīta* 'slope', Goth. *mulda* 'dust', Goth. *skanda* 'shame', OHG *stata* 'state, position', etc. The oxytonesis of Goth. *þiuda*, OHG *deota* 'people' < $^*teu\text{-}teH_2$- may be original.

§ 4.21. *The suffixes -þrō- and -þlō-*. Derivatives with these suffixes are always barytone, cf. Goth. *hleiþra* 'tent', *neþla* 'needle'. Barytonesis is also found with the suffixes *-þra-* and *-þla-* (see § 4.9).

§ **4.22.** THE EVIDENCE.

Barytona

+ Goth. *aƕa* 'river' < $*H_2ek^w\text{-}eH_2\text{-}$ (or, possibly, < $*H_1H_1k^w\text{-}eH_2$, if connected with Hitt. *ēku̯-*, Toch. AB *yok-* 'to drink' < $*H_1eH_1k^w\text{-}$).
+ Goth. *faþa* 'fence' < $*pot\text{-}eH_2\text{-}$.
+ OHG *fedara* 'feather' < $*pet\text{-}reH_2\text{-}$.
+ OHG *for(a)ha* 'pine' < $*prk^w\text{-}eH_2\text{-}$.
? OE *fōrn*, OHG *forhana* 'forel' < $*pr\acute{k}\text{-}neH_2\text{-}$. The word is most probably a substantivized adjective 'of variegated colour', cf. Gr. περκνός.
? OE *furh* 'furrow' < $*pr\acute{k}\text{-}eH_2\text{-}$. The stem of this word is uncertain.
- OIc. *lá*, *lǫ́* 'lake' < $*lH_2k\text{-}(u)eH_2$. Most probably, a denominal formation, cf. the *u*-stem OE *lagu*, OIc. *lǫgr* 'lake, sea', Lat. *lacus*.
? OIc. *mǫl* 'gravel' < $*(s)molk\text{-}eH_2\text{-}$.

Oxytona

+ OHG *ēra* 'honour' < $*H_2e/ois\text{-}eH_2\text{-}$.
+ OIc. *lind* 'lind' < $*H_1lent\text{-}eH_2\text{-}$.
? OS *logna* 'flame' < $*l(o)ug\text{-}neH_2\text{-}$.
? OIc. *sǫg*, OHG *sega* 'saw' < $*so/ek\text{-}eH_2\text{-}$. The different ablaut grades show that these words are deverbative formations (cf. Lat. *secāre*).
+ OHG *zanga* 'tongs' < $*don\acute{k}\text{-}eH_2\text{-}$.

§ **4.23.** *Evaluation of the laryngeal stems.* The reliable evidence is too limited to establish a distribution.

THE *r*- AND *n*-STEMS

§ **4.24.** The few old Germanic *r*-stems (Goth. *brōþar*, *fadar* and OHG *muoter*) are dealt with in the section on *r*-stems in Sanskrit (see above, §§ 2.87,91).

The *n*-stems have become productive in Germanic and therefore are mostly of secondary origin. Many root-nouns, *a*-stems and *ō*-stems got the *n*-inflection when they denoted an animate object (cf. Meid 1967: 91). There is only one group of primary derivatives, viz. nomina agentis derived directly from the verbal root, e.g. OE *lida* 'sailor, traveller' (OE *līþan* 'to sail, travel'), OE *wita* 'witness', Goth. *un-wita* 'fool' (Goth. *wait* 'I know'), etc. This category takes the spirant of the verb or, in case of the grammatical change, the voiced spirant of the past participle (Meid 1967: 93). For this distribution see § 4.13 above on the suffix *-a-* in Germanic.

The suffix *-men-* shows barytonesis in Germanic, cf. Goth. *ahma* m. 'mind', *hiuhma* m. 'multitude', OE *lēoma* m. 'ray of light', etc. To the same accentuation points a variant of this suffix, *-smen-* (OHG *deismo* 'leaven, yeast').

SUMMARY

§ **4.25.** Although the Germanic evidence is not extensive, in the main points it confirms the distribution established for the Sanskrit and Greek material. This especially concerns categories where ablaut does not have any bearing on the accentuation. The Germanic accentual distribution of Category 2A (roots with one contiguous stop)

	i- and *u*-stems	*o*-stems
T	oxytone (6:0)	barytone (6:0)
$D^{(h)}$	barytone (4:1)	oxytone (3:0)

shows remarkable agreement with the Sanskrit distribution. The figures leave no doubt that this distribution is not accidental. The scarcity of words with $D^{(h)}$ is comprehensible because our only source of information about Germanic accentuation is the voicedness of the reflexes of PIE tenues and *-s-*. Consequently, the main part of the material consists of roots with T.

Also in Category 4 (two-stop roots) Germanic shows a great deal of agreement with Sanskrit and Greek. The material of the *i-* and *u*-stems is insufficient, but the *o*-stems allow some conclusions for the roots T...T. These roots yield oxytonesis (2:0) when both stops are contiguous to the syllabic nucleus, and barytonesis (3:0) when one or two stops are non-contiguous, which coincides with the Sanskrit distribution.

In those categories, however, where the ablaut grade of the root is a decisive factor according to the Sanskrit and Greek material, the Germanic evidence sometimes deviates from this distribution. In Category 1 (roots without stops) we find:

	i- and *u*-stems	*o*-stems
Full grade	3 bar.: 2 ox.	barytone (4:0)
Zero-grade	2 bar.: 1 ox.	none

The old ablaut relations were heavily disturbed in Germanic, which led to the generalization of one ablaut-grade in some roots and the introduction of a new type of ablaut in others. It is therefore natural that the distribution based on the PIE ablaut is not preserved in Germanic.

The evidence of the laryngeal stems, *r-* and *n*-stems is insufficient for any conclusion.

CHAPTER FIVE

CONCLUSIONS

§ 5.1. The present study is dedicated to the problem of the unpredictable character of Indo-European nominal accentuation. As a matter of fact, we cannot generally predict the accentuation of a noun on the basis of the morphological or semantic properties of the suffix or the meaning of the word. As was outlined in the introduction, the only approach which claims to account for the accentuation of every single word is Dybo's tonal theory. Within the framework of this theory, the accentuation of the word is determined by the prosodic features of its constituent morphemes. Since there is evidence for the existence of tones in PIE (cf.§§ 1.6ff.), one can assume that these prosodic features were tones.

In order to prove the IE character of the tonal distinctions, I investigated Indo-European primary nominal word formation. The tonal theory predicts that all morphemes can be divided into prosodic classes in such a way that the place of the accent can be derived by general phonological rules. If the theory is correct, we may expect that roots and suffixes of comparable consonantal structure belong to the same prosodic class (cf. § 1.9).

Nouns with a reliable IE etymology (i.e. nouns attested in several languages) and accentuation are scarce. Therefore, I have analyzed accentual patterns of primary noun formation in those languages where PIE accentuation was preserved (Sanskrit, Greek, and Germanic; for Balto-Slavic see § 1.21), starting from the assumption that these patterns date from PIE. The Vedic evidence constitutes the main part of the study. The results of the analysis of the Vedic material are subsequently compared with the Greek and Germanic evidence.

§ 5.2. The results of the accentological analysis of Sanskrit primary nominal word formation can be summarized as follows:

(1) The material of the *r*-stems, *n*-stems, and laryngeal stems is insufficient for conclusions about the PIE accentual distribution. We can thus rely only on the *i*-, *u*-, and *a*-stems.

(2) Words containing suffixes in *-i-* and *-u-* show a similar accentual distribution of root morphemes; the same holds true for words containing suffixes in *-a-*. This means that all suffixes in *-i-* and *-u-* belong to one prosodic class, whereas all suffixes in *-a-* belong to another prosodic class.

(3) *i-* and *u*-stems derived from roots with a final or medial laryngeal

are always oxytone, due to an Indo-Iranian accent shift (see §§ 2.30ff.). Therefore, these words do not bear testimony to PIE accentuation.

(4) The prosodic class of root morphemes is determined by their consonantal structure. It appears that there is an essential difference between stops and other consonants: whereas stops exert influence on accentuation, other consonants do not. The prosodic effect of mediae (D) is identical to that of mediae aspiratae (D^h), but different from the prosodic effect of tenues (T).

(5) The correlation between root structure and accentuation is the following:

- If the root contains no stops, or the stop is not contiguous to the syllabic nucleus, the accentuation is determined by the ablaut grade of the root: full grade is accented, zero-grade is unaccented. The same holds probably true when the effect of stops is blocked by an initial laryngeal. It follows that the generally accepted "morphological" theory of PIE accentuation (cf. § 1.3) partly corresponds with our distribution. If the root did not contain a stop contiguous to the syllabic nucleus, it was accented in full grade and unaccented in zero-grade. If, however, the root contained a contiguous stop, this rule did not apply.
- If the root contains a stop which is contiguous to the syllabic nucleus, the type of the stop determines the accentuation: the root is accented if the stop is voiceless (T) and the suffix belongs to the *o*-stems and if the stop is voiced (D/D^h) and the suffix belongs to the *i*- or *u*-stems; otherwise, the root is unaccented.

The correlation between root structure and nominal accentuation in Sanskrit can be presented in the following tables (figures in brackets indicate the number of certain examples):

Category 1 (Roots without stops) and Category 3A (One-stop roots with an initial laryngeal; Derivatives with a contiguous stop)

Full grade	barytone (42:5)
Zero-grade	oxytone (27:5)

Category 2A (One-stop roots without an initial laryngeal; Derivatives with a contiguous stop)

	i- and *u*-stems	*o*-stems
T	oxytone (13:1)	barytone (25:3)
$D^{(h)}$	barytone (23:5)	oxytone (21:1)[32]

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[32] It is essential that in Category 2A the ablaut grade of the root does not seem to have any impact on accentuation, cf.

	i- and *u*-stems	*a*-stems
Full grade	9x bar.: 3x ox.	14x bar.: 12x ox.
Zero grade	15x ox.: 15x bar.	12x ox.: 12x bar.

§ 5.3. In Chapters 3 and 4 I investigated the Greek and Germanic evidence, which appeared in the main points to confirm the Sanskrit correlation between root structure and nominal accentuation (of course, except for the Indo-Iranian laryngeal accent shift). We can therefore be sure that this correlation is of PIE date, which means that in PIE the accentuation of a noun could be predicted on the basis of the prosodic classes of the root and the suffix. The prosodic class of the root was determined by its consonantal structure; the prosodic class of the suffix was determined by its stem (*-i-/-u-* vs. *-o-*).

It follows from the preceding section that there are four prosodic classes of root morphemes and two prosodic classes of suffix morphemes. These classes show the following accentual distribution:

			i- and *u*-stems	*o*-stems
(a)	I.	Zero-grades (Cat. 1, 3A)	unaccented	unaccented
	II.	Full grades (Cat. 1, 3A)	accented	accented
	III.	T-roots (Cat. 2A)	unaccented	accented
	IV.	D$^{(h)}$-roots (Cat. 2A)	accented	unaccented

The interpretation of the prosodic classes, which we shall discuss below, is in several points unclear, but in my opinion the very existence of prosodic classes and the accentological effect of stops suffice to prove the tonal character of PIE. It seems impossible to account for these facts in a principled way without assuming that at some stage PIE was a tone language.

§ 5.4. What were the phonetic properties of the prosodic classes of table (a)?

As is pointed out in the introduction (cf. §§ 1.6ff.), the evidence for tonal distinctions in PIE makes probable that PIE possessed a system of two level tones, high (H) and low (L). From a typological point of view, we expect high tone to be correlated with voiceless consonants and low tone with voiced consonants (Hyman 1975: 229, cf. also § 1.9). It seems therefore reasonable to assume that Class III of table (a) is H and Class IV is L. Moreover, in view of the fact that full grades (Class II) are always accented and zero-grades (Class I) always unaccented, we must conclude that Class II is H, whereas Class I is L.

As far as the suffix morphemes are concerned, I assume that the suffixes of the *o*-stems are H because they contain a full grade. The PIE *i*- and *u*-stems showed ablaut alternations in the desinence so that the suffix could be either H or L (the consonant of the suffix does not seem to have played any role; for a possible explanation of this fact see below, fn.34).

Filling in the proposed tonal properties in table (a), we get the following picture:

			i-/u-stems (H:L)	*o*-stems (H)
(b)	I.	Zero-grades (L)	LH : LL	LH
	II.	Full grades (H)	HH : HL	HH
	III.	T-roots (H)	HH : HL	HH
	IV.	D(h)-roots (L)	LH : LL	LH

If we apply Dybo's rule for stress assignment (the accent is assigned to the first H morpheme of the word, or, if there is no H morpheme, to the word-initial L morpheme, cf. § 1.5), we expect the following accentuation:

			i-/u-stems (H:L)	*o*-stems (H)
(c)	I.	Zero-grades (L)	LH́ : ĹL	LH́
	II.	Full grades (H)	H́H : H́L	H́H
	III.	T-roots (H)	H́H : H́L	H́H
	IV.	D(h)-roots (L)	LH́ : ĹL	LH́

If we now compare the actually attested accentuation presented in table (a), we see that in case of the *o*-stems the prediction turns out right: morphemes of Classes I and IV are indeed unaccented, while morphemes of classes II and III are accented.

The situation with the *i*- and *u*-stems is more complicated. The accentuation of Classes I and II is comprehensible: most *i*- and *u*-stems were mobile in PIE and had only one full grade in a word (see the next section), either in the root (H́L), or in the desinence (LH́). When one of the ablaut grades was generalized throughout the paradigm (this happened mostly in the separate languages), its accentuation was generalized as well.

The accentuation of Classes III and IV is difficult, however. For Class IV we must assume that the accentuation of cases with zero-grade in the desinence (e.g., the nominative and accusative of the proterodynamic inflection) was generalized. As to the Class III morphemes, we expect them to be always accented, but the opposite is true. This accentuation is phonetically implausible (cf., however, a comparable difficulty with the Indo-Iranian laryngeal accent shift, §§ 2.30ff.), so that we must look for a morphological explanation. It seems probable that the peculiar accentuation of Class III is somehow connected with the elimination of the static inflection. Before we proceed, let us shortly discuss the PIE ablaut alternations and inflectional patterns.

§ 5.5. PIE knew two types of ablaut:[33] *e*, *o* - *Ø*, and *e* - *o*, which are most probably due to accent. For the ablaut *e*, *o* - *Ø* cf. Skt. 1sg.pr. *émi* 'I go' vs. 1pl. *imáḥ*, 1sg.pf. *véda* 'I know' vs. 1pl. *vidmá*; for the ablaut *e* - *o* cf. Gr. δοτήρ: δώτωρ, πατέρα: εὐπάτορα, etc. These two effects of accent were considered to be irreconcilable, but recently Beekes (1985: 156ff.) proposed to see these developments as two different chronological stages. After the reduction of vowels by the accent, new full grades were introduced which were then changed to *o*. Beekes thus reconstructs three accentual stages: AI, when the accent reduced all unaccented vowels to zero; AII, when an analogically introduced unaccented vowel became *o*; AIII, when the accent reduction ceased operating and every vowel could occur in unaccented position:

	AI	*é*, *ó* - *Ø*	zero-phase
(d)	AII	*é*, *ó* - *o*	*o*-phase (unstressed *o* is possible)
	AIII	*é*, *ó* - *e*, *o*	*e*-phase (unstressed *e* is also possible)

In the same book, Beekes comes to the conclusion that "all attested Indo-European inflectional types go back to two types, a static and a mobile one" (p.202). In the static type the stress was fixed on the root, whereas in the mobile type some cases had root stress and others desinential stress. Relevant for our discussion are the nominative, genitive, dative, and locative (the problem of the ergative is left out of consideration). The two types can be represented as follows (cf. Beekes 1985: 207 ad IV):

		static	dynamic
	nom.	*CéC-u-s*	*CéC-u-s*
(e)	gen.	*CéC-u-s*	*CC-u-ós*
	dat.	*CéC-u-i*	*CC-u-éi*
	loc.	*CéC-u-i*	*CC-éu-i*

The static type had the disadvantage that the nominative and the genitive, on the one hand, and the dative and the locative, on the other, were identical. Therefore, the whole type was reshaped, so that it was almost completely lost.

§ 5.6. We can now return to the tones. In this section I shall write *á* for a vowel with high tone and *à* for a vowel with low tone; the place of the stress will be indicated by *ȧ*.

According to Kortlandt (1986a, cf. also § 1.9), PIE possessed a system of two level tones, high and low, and only two types of stops, voiceless (T) and glottalic (T' = D). At some stage, voiceless stops became voiced aspirates in the neighbourhood of low tone (T̀ > D̀^{h}) and remained voiceless otherwise. This theory accounts for the PIE root constraint, viz. that T and D^h do not occur simultaneously within a root (TV́T > TV́T; TV̀T > D^{h}V̀D^h), and for the double marking of the PIE voiced aspirates (cf. § 1.9). As the glottalics have the same prosodic properties as D^h (see § 5.2 ad 4), we must assume that they became correlated with the low tone.

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[33] The lengthened grade **ē*, **ō* originated from the phonetic lengthening of *e* and *o* in monosyllables and before a word-final resonant, cf. Kortlandt 1975: 85.

Writing T for morphemes containing voiceless stops, D for morphemes containing voiced aspirates and glottalics, and R for morphemes consisting of resonants, laryngeals or *s*, we can represent the correlation of consonant types and tones at this stage as follows: T́, D̀, Ŕ, and R̀, i.e. T was high, D was low, R could be either.

Reconstructing a tonal system for early PIE, we can account for the rise of ablaut alternations and accentual mobility. Within a system of two level tones there are four possible combinations of two morphemes: HH, HL, LH, and LL. In accordance with Dybo's rule, we expect the following stress assignment: H̍H, H̍L, LH̍, L̍L. Assuming now that unaccented vowels were reduced to zero (stage AI, see table (d)) whereas accented vowels became *e* or *o* (Kortlandt thinks that *ə̍* became *e* in an open syllable and *o* in a closed syllable, pers. comm.), we can explain the PIE ablaut as follows:

(f)
H-H = *ə́* - *ə́* > *ə̍* - *ə* > *e*, *o* - *0*
H-L = *ə́* - *ə̀* > *ə̍* - *ə* > *e*, *o* - *0*
L-H = *ə̀* - *ə́* > *ə* - *ə̍* > *0* - *e*, *o*
L-L = *ə̀* - *ə̀* > *ə̍* - *ə* > *e*, *o* - *0*

This approach enables us to reduce the static and dynamic nominal inflections to a single type: words with high tone in the root acquired the static inflection, whereas words with low tone in the root acquired the dynamic inflection, e.g.

		static	dynamic
(g)	nom.	*Cə́C-ə̀s* > *Ce̍C-s*	*Cə̀C-ə̀s* > *CèC-s*
	gen.	*Cə́C-ə́s* > *Ce̍C-s*	*Cə̀C-ə́s* > *CC-òs*
	dat.	*Cə́C-ə́i* > *Ce̍C-i*	*Cə̀C-ə́i* > *CC-èi*
	loc.	*Cə́C-ə̀i* > *Ce̍C-i*	*Cə̀C-ə̀i* > *CèC-i*

Consequently, words with T́-roots and Ŕ-roots had the static inflection, words with D̀-roots and R̀-roots had the dynamic inflection.[34] As we have seen above (§ 5.5), the static type was insufficiently characterized and was therefore eliminated. The elimination proceeded differently for the Ŕ-roots and the T́-roots and was realized in several steps.

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[34] This is probably the reason why the suffixal *-t-* had no impact on the accentuation (cf. § 5.4). The *-t-* made the desinence H and thus affected the accentual pattern of the dynamic inflection. I believe that the pattern was then restored, and the effect of the *-t-* became invisible.

The reshaping of the Ŕ-roots presented little problems. These roots had a match in the R̀-roots, so that words with Ŕ-roots could acquire the dynamic inflection of the words with R̀-roots. Words with T́-roots, however, could not become dynamic at this stage (AI) because there was no model: all words with T́-roots had the static inflection. This development could not happen at stage AII either because the accent rule would have changed the _e_ of the endings to _o_, thereby creating a new inflectional type. Therefore, the _o_-stems, which originated at this stage, are barytone in the case of T́-roots (cf. table (d)).

It was probably only at stage AIII that words with T́-roots could become mobile by taking over the accented endings. The accentuation of the weak cases was then generalized, which led to the oxytonesis of the _i_- and _u_-stems derived from T́-roots. The generalization of the weak cases is confirmed by the fact that twelve of the fourteen -_i_- and -_u_- derivatives from T́-roots have zero-grade in the root (§ 2.34).

§ 5.7. It must be admitted that the proposed morphological explanation of the accentuation of T-roots does not provide a solution to every single problem. For instance, it is unclear why the D-roots have generalized the accentuation of the strong cases (§ 5.4) while this did not happen with the R-roots. It is also unclear how zero-grade T-roots (such as *_uĺk_^{w}_-o-_) can be accounted for. Nevertheless, the considerations given here may be useful, as they indicate in which direction the answer can be sought.

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